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## Characteristic Similarities between Agri-Food Marketing in Bottom of the Pyramid-Subsistence Markets and Digital Marketing

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### ABSTRACT

The main aim of the research was to attempt to ascertain, assess and diagnose the characteristic similarities between agri-food marketing specifically in the bottom of the pyramid-subsistence markets (BOP-SM) and digital marketing. The research found a total of 33 characteristics that were identical or similar between agri-food marketing in BOP-SM and digital marketing. These characteristic findings provide that both typologies of marketing have more in common, then they have in divergence. For example, both typologies of marketing are relational in nature and in essence; commonly they foster personalization and customization and are prone to be dialogical as per the interactivity implied; both are visual and can be oral, even though in terms of digital marketing this may mean not only voice to voice marketing messages over mobile phones, but recorded oral marketing messages that are also visual and interactive in nature; such orality can be language sensitive and provide for target marketing messaging in local languages and dialects. However as per the relative and comparative lack of literature on agri-food digital marketing specifically in BOP-SM contexts far more research is required on this subject matter area, and possibly the 33 characteristics found by this research may provide some guidance for such research. Further within the realm of agri-food digital marketing further research is also needed in terms of the mesomarketing and macromarketing aspects of such a subject matter area.

**Keywords:** marketing; agricultural marketing; food marketing; agri-food marketing; macromarketing; mesomarketing; marketing in the bottom of the pyramid-subsistence markets; digital marketing; agri-food digital marketing

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### 1. Introduction

Digital technologies, for example, the internet, mobile phones, and all the other tools that collect, store, analyse, and share information digitally, have spread quickly as the number of internet users, as an example in a 10 year period, have more than tripled, going from 1 billion in 2005 to an estimated 3.2 billion at the end of 2015 (World Bank, 2016b). This large scale digitalization more often than not is referred to as the fourth industrial revolution (4IR) or Industry 4.0 (Ingram, 2021; FAO, 2019). Interestingly, the internet and related technologies have reached developing economies much faster than previous technological innovations (World Bank, 2016b). But still ‘nearly 2 billion people do not own a mobile phone, and nearly 60 percent of the world’s population has no access to the internet’ (World Bank, 2016b), this is circa 3.6 billion people in developing and transition economies that do not have access to the internet (Ingram, 2021; Harding & Penny, 2021; UNCTAD, 2021). For example, Africa has 24.4 percent of internet access, the Asia pacific region 53.4 percent and the Middle East 58.9 percent of internet coverage (Ingram, 2021; FAO, 2019). Interestingly though, in developing and emerging economies, more households own a ‘mobile phone than have access to electricity or clean water’ (World Bank, 2016b) and in Africa for example, between 2005 and 2018, the growth rate of internet usage went from 2.1 percent in 2005 to 24.4 percent in 2018 (FAO, 2019). In reality though, the matter is seemingly more about access than an issue of coverage, as 3G covers about 93.1 percent of the world, with 2G

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covering 96.7 of the world (UNCTAD, 2021).

Urban centres are seemingly more digitalized and are more internet connected than rural areas, even though in some urban areas, such as slums for example, digitalization is progressing slowly. However it is not just the rural and urban digital divide, as there are also connectivity and access problems as related to infrastructure, user capability, low incomes, affordability, ethnicity, gender, education level, disability and age (UNCTAD, 2021; Banga *et al.*, 2020; Hardin & Penny, 2021; FAO, 2018). However, the expected major 'next wave of mobile connections is expected to come from rural communities, of which most are engaged in agriculture activities daily' (FAO, 2019). Further even among the poorest '20 percent in developing countries, 70 percent have access to mobile phones and more than 40 percent of the global population has Internet access' (FAO, 2019; World Bank, 2016). In 2019, there were '108 mobile phone subscriptions for every 100 people globally and in terms of connectivity to internet there were 21.7 billion devices that have access to the world wide web' (Harding & Penny, 2021).

In this regard thus, digitalization can be a key to economic development that is inclusive, innovative and efficient (FAO, 2018; World Bank, 2016b), and as such can reduce poverty and potentially 'digital technologies and connectivity have the power to improve development outcomes and lift millions out of poverty' (Ingram, 2021). Digital technology is accelerating 'access to information and communications, reducing the cost of technologies, driving productivity, providing for new job creation, resource conservation, reducing transaction costs, boosting efficiency, speeding innovation, accelerating economic growth, empowering financial inclusion, building innovative and resilient solutions, and facilitating government transparency and citizen-government interactions' (Ingram, 2021; FAO, 2018).

Vital digitalization and its technologies are 'putting people at the heart of products and services and empowering them' (Ingram, 2021). For example digitalization is providing real time market and weather information for farmers (Ingram, 2021); digital value chain management solutions such as business-to-business (B2B) services provide support and help agribusinesses, cooperatives, farmers and input agro-dealers (Banga *et al.*, 2020); and digitalization can connect buyers, sellers and producers, via digital marketplaces (IFAD, 2021). Digitalization and its related technologies can transform food systems via, for example, enhanced market access, increased rural services and more environmental and climate smart friendly farm production (IFAD, 2021). In fact, with the use of, for example, smartphones, applications, sensors, drones and robotics, agriculture can improve the possibilities of using scarce natural resources more effectively and efficiently (Kern, 2015). Further, the spread of smartphones and remote sensing services in particular, for example, are providing new opportunities for integration of small-scale farmers in agri-food systems (FAO, 2019). Overall current market forecasts estimate that digitalization over the coming decade will transform the agri-food sector (FAO, 2019).

It is within this background and context that seemingly digital marketing has a large role to play in agri-food marketing in the bottom of the pyramid-subsistence markets (BOP-SM). It seems that digital marketing is not only relegated to developed economies<sup>1</sup>, but can provide for fertile ground within developing and transitions economies, where agriculture is one of the main engines for economic development and growth. Typically the agri-food sector employs circa 1.3 billion people, represents about 28 percent of the global working population (FAO, 2019), and circa 570 million small-scale farmers provide the majority of food for the circa 7.7 billion global food consumers (World Bank, 2021), of which about 40 percent live and work in BOP-SM (World Bank, 2018; 2016a). As such the agri-food sector and inherent agri-food marketing within is thus too big to ignore in terms of working population (input dealers, farmers, traders, processors, wholesalers, retailers, etc.) food consumers, agri-food marketing systems as well as the fast paced development and deployment of digital technologies and networks (World Bank, 2021). In particular agri-food marketing is a key to such development and growth as it enables the commercialization of agricultural and food products and digitalization within this, i.e. digital marketing, seemingly can only but enhance such marketing efforts. In this regard, the research attempted to ascertain the characteristic similarities between agri-food

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<sup>1</sup> There is considerable literature related to digital marketing in developed economies in the agri-food sector, but overall, relatively and comparatively little literature related to digital marketing in the agri-food sector specifically in BOP-SM

marketing in the BOP-SM and digital marketing in an attempt to ascertain digital marketing compatibility with agri-food marketing specifically within BOP-SM, i.e. agri-food digital marketing.

### Research aim

The overall aim of the research was to attempt to ascertain, assess and diagnose the characteristic similarities between agri-food marketing specifically in BOP-SM and digital marketing.

### Methodology

The research was based on two literature and secondary sources of data and information researches and reviews, and on open peer review process conducted twice on research terminology i.e. key search terms and on one open peer review process provided on the findings of the research. The research, as provided by Sekaran & Bougie (2016), referred to the characteristics of: purposiveness, rigor, testability, replicability, precision, confidence, objectivity, generalizability and parsimony. The research in nature was qualitative, abductive, systematic, exploratory and descriptive. As per the literature and sources of secondary data and information, mainly and to a greater degree, the research focused on academic journal articles, technical reports, and books and to a lesser degree on online articles. Publications from the research were selected on quality criteria, as based on Saunders *et al.*, (2016), Adams *et al.*, (2014) and Fisher (2010), as follows: the direct and indirect relevance to the research subject matters; value (methodological rigour, quality of the reasoning or arguments, references, etc.); research evidence in terms of either or both primary source-based (credibility; reliability; ecological validity) and secondary source-based information; derived from an identified and reliable source (author(s), scientific journal publisher, reputation of publisher, etc.); date of publication (not older than 80 years); references used; and peer review conducted.

As per digital marketing, and the inherent use of diverse technologies within, for example, information and communication technologies (ICTs), artificial intelligence (AI), etc., has given rise, over time, to various descriptive terms for such a typology of marketing. In this regard, and as per the number of terms used currently, an initial brief exploratory research was provided, in an attempt to identify the most common terms used. The key terms research was conducted using two online search engines of Google and Google scholar and the terms found were then shared with reviewers for feedback<sup>2</sup>. The final list of identified and agreed-upon key terms for marketing in the digital world were seven and as follows: digital marketing; e-marketing; internet marketing; online marketing; web marketing; mobile marketing; and social media marketing. Following this, terms used for marketing in developing and emerging economies were identified and reviewed, and four key terms were agreed upon: marketing in the bottom of the pyramid; bottom of the pyramid marketing; marketing in subsistence markets; and marketing in subsistence marketplaces. Further terms used for agricultural and food marketing were also reviewed and agreed upon and were identified in four key terms: agricultural marketing, food marketing, agri-food marketing, agro-food marketing.

Using the above identified 15 key search terms, the first literature and sources of secondary data and information research was conducted in a systematic and exploratory way. This was conducted in two phases and used<sup>3</sup> six online databases: Core, Google scholar, Microsoft academic, Refseek, ResearchGate and Social science research network (SSRN) and focused in the majority of cases on academic journal articles, technical reports and books, and to a lesser degree on online articles. The specific key search terms used in the first phase of the research were: digital marketing; e-marketing; internet marketing; online marketing; web marketing; mobile marketing; social media marketing; marketing in the bottom of the pyramid; bottom of the pyramid marketing; marketing in subsistence markets; and marketing in subsistence marketplaces.

The second phase of the research, still used the same six online databases and involved a combination of specific key research terms as follows: agricultural digital marketing; agricultural e-marketing; agricultural internet marketing; agricultural online marketing; agricultural web marketing;

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<sup>2</sup> This review was conducted in October 2020 and involved four reviewers: two were subject matter specialists in digital marketing and two were specialists in agri-food marketing in BOP-SM. Two of the reviewers were academics and the other two reviewers were, a practitioner from the agri-food private sector and the other a practitioner from agri-food development in an NGO.

<sup>3</sup> The first literature research and review was conducted between November 2020 and January 2021.

agricultural mobile marketing; agricultural social media marketing; agricultural marketing in the bottom of the pyramid; agricultural bottom of the pyramid marketing; agricultural marketing in subsistence markets; agricultural marketing in subsistence marketplaces; food digital marketing; food e-marketing; food internet marketing; food online marketing; food web marketing; food mobile marketing; food social media marketing; food marketing in the bottom of the pyramid; food bottom of the pyramid marketing; food marketing in subsistence markets; and food marketing in subsistence marketplaces; agri-food digital marketing; agri-food e-marketing; agri-food internet marketing; agri-food online marketing; agri-food web marketing; agri-food mobile marketing; agri-food social media marketing; agri-food marketing in the bottom of the pyramid; agri-food bottom of the pyramid marketing; agri-food marketing in subsistence markets; and agri-food marketing in subsistence marketplaces; agro-food digital marketing; agro-food e-marketing; agro-food internet marketing; agro-food online marketing; agro-food web marketing; agro-food mobile marketing; agro-food social media marketing; agro-food marketing in the bottom of the pyramid; agro-food bottom of the pyramid marketing; agro-food marketing in subsistence markets; and agro-food marketing in subsistence marketplaces. From this first research, and based on the quality criteria set for the research, 43 publications were selected for review.

The results from this initial exploratory research provided guidance for the second research that focused also on both literature as well as on sources of secondary data and information. This second research was systematic, exploratory and descriptive and was also subdivided into two phases. The key search terms used were identified and were shared with reviewers for feedback and review<sup>4</sup>. The final list of identified and agreed-upon key terms for digital marketing and marketing in bottom of the pyramid and subsistence markets were 28 key search terms as follows: digital marketing in the bottom of the pyramid; e-marketing in the bottom of the pyramid; internet marketing in the bottom of the pyramid; online marketing in the bottom of the pyramid; web marketing in the bottom of the pyramid; mobile marketing in the bottom of the pyramid; social media marketing on the bottom of the pyramid; bottom of the pyramid digital marketing; bottom of the pyramid e-marketing; bottom of the pyramid internet marketing; bottom of the pyramid online marketing; bottom of the pyramid web marketing; bottom of the pyramid mobile marketing; bottom of the pyramid social media marketing; digital marketing in subsistence markets; e-marketing in subsistence markets; internet marketing in subsistence markets; online marketing in subsistence markets; web marketing in subsistence markets; mobile marketing in subsistence markets; social media marketing in subsistence markets; subsistence markets digital marketing; subsistence markets e-marketing; subsistence markets internet marketing; subsistence markets online marketing; subsistence markets web marketing; subsistence markets mobile marketing; and subsistence markets social media marketing.

Using the above identified 28 key search terms, the first phase of the second literature and sources of secondary data and information research was conducted<sup>5</sup> using 20 online databases: Business source complete (EBSCO); CORE; Emerald full text; Google scholar; JSTOR business collection; Microsoft academic; Oxford University Press Journals; Proquest; Proquest one business; Refseek; ResearchGate; SAGE journals online; Science direct; Scopus; Social science research network (SSRN); Springerlink; Taylor and Francis online journals; Web of Science; Wiley international encyclopaedia of marketing; and Wiley online library. The research focused mainly on academic journal articles, technical reports and books, and to a lesser degree on online articles.

The second phase of the research was conducted using the four key words of agricultural marketing, food marketing, agri-food marketing, and agro-food marketing, placed in front of each of the 28 key terms, in turn. So for example for the key term digital marketing in the bottom of the pyramid was provided in terms of agricultural digital marketing in the bottom of the pyramid; food digital marketing in the bottom of the pyramid; agri-food digital marketing in the bottom of the pyramid; and agro-food digital marketing in the bottom of the pyramid. This was done for all the 28 key search terms. In this second phase of the research, the same 20 online database were used as provided previously.

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<sup>4</sup> This review was conducted in February 2021 and involved two reviewers who were subject matter specialists in digital marketing and two reviewers who were subject matter specialists in agri-food marketing in developing and emerging economies. Two reviewers were from academia, while one reviewer was a practitioner in development projects in developing and emerging economies and the other reviewer was from the private sector that operated in developing and emerging economies.

<sup>5</sup> The second literature research and review was conducted from March to September 2021.

From both search phases, and based on the quality criteria set for the research, 74 publications were selected for review.

The sources of secondary data and information were analysed via a qualitative method, thematic analysis, and as the results were ‘coming in’ they were analysed, this allowing for iteration in the research. This was followed by themes found being compared and frequency was sought for each emerging theme (characteristic). If the theme was found at least three times (triangulation) this would be provided as a valid and reliable characteristic. The findings, so as to assess for research quality, reliability and validity, were provided via a qualitative stance, hence trustworthiness (truth value, applicability, consistency, neutrality) and credibility (good research practice, peer review of findings) criteria were used (Bryman & Bell 2011; Walle 2015).

Following the analysis, the draft findings of the research were reviewed by the four subject matter specialists<sup>6</sup> and feedback was provided. The feedback provided from the four subject matter specialists on the draft findings of the research were compared and then triangulated. This provided for a further layer of validation of the research results.

## Findings

### The agri-food sector in developing economies

In developing economies, more than two-thirds of the population work in agriculture, while less than five percent of the population does in rich countries (FAO, 2019). According to the World Bank (2018; 2016a) about 736 million people, or 10.9 percent of the world population, live in extreme poverty, with an income of less than US\$1.9 per day, while 3 billion live on US\$2.5 per day and represent about 40 percent of the world population and the situation has worsened as per the economic crises of 2020<sup>7</sup> (World Bank, 2020). In such contexts, commonly referred to as the bottom of the pyramid<sup>8</sup>-subsistence markets<sup>9</sup> many work in the informal economy. The informal economy covers all ‘firms, workers and activities that operate outside the legal regulatory framework of society, and the output that they generate’ (WIEGO, 2012). Informal economies are estimated to account for 40 to 50 percent ‘of gross domestic product in developing countries and therefore are substantially important’ (Viswanathan *et al.*, 2012). About 60 percent of the globally employed earn their livelihoods in the informal economy (ILO, 2018) and in the informal economy, a major share is represented by the agricultural and food sector (ILO, 2018). The informal food economy relates to food production, transport, and retailing, for example, that is ‘not under the direct preview of national governments’ (FAO, 2003). It includes ‘small producers, manufacturing enterprises, traders and service providers, involved in legal as well as unrecognized activities related to food’ (FAO, 2007). The informal food sector is mainly characterised by: ‘low capital investments, absence of specialization, strong relationships between sellers and buyers, little accounts and taxes, and permeability with the formal food sector’ (FAO, 2003). FAO (2019) provides that an estimated 1.3 billion people are employed in the agri-food sector, and as such agriculture is the second greatest source of employment worldwide after services as it accounts for 28 percent of global employment and jobs provided in the agri-food sector ‘extend beyond agricultural production and account for a large share of the global economy’s manufacturing and services sectors’ (FAO, 2019).

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<sup>6</sup> The review of the draft findings was conducted in September 2021 and involved two reviewers who were subject matter specialists in digital marketing and two reviewers who were subject matter specialists in marketing in developing and emerging economies. Two reviewers were from academia, while one reviewer was a practitioner in development projects in developing and emerging economies and the other reviewer was from the private sector that operated in developing and emerging economies

<sup>7</sup> The World Bank estimates that as per the economic crisis of 2020 about 100 million more people are under threat of poverty (World Bank, 2021).

<sup>8</sup> This refers to the world population subdivided into a pyramidal income based tier system, where each tier provides for a defined income range: the top of the pyramid being the highest, while the lowest, tiers 4 and 5, being considered the bottom of the pyramid i.e. the poorest in the economic human pyramid (Pralhad and Hart, 2002)

<sup>9</sup> This refers to ‘consumer and entrepreneur communities living at a range of low-income levels’ (Viswanathan & Rosa, 2007).

### **The prominence of exchange in bottom of the pyramid-subsistence markets**

In BOP-SM the main focus is on exchange as it plays a central role in the work and lives of poor consumers and entrepreneurs ( Venugopal & Viswanathan, 2017) as ‘what is primarily understood intuitively is exchange and expertise in survival’ (Viswanathan, 2016). ‘Exchange ecosystems are governed by norms such as empathetic exchange, orality, and relational exchange’ (Venugopal & Viswanathan, 2015). However, such exchange systems do not only focus on basic wants and needs as may be presumed, but also, and importantly, on aspirational wants and needs (Barki & Parente, 2010). Hence and consequently in such exchange systems, marketing is central to any type of commercial exchange (Baker & Saren, 2010) as the true ‘essence of marketing is the establishment of mutually satisfying exchange relationships, and as such markets and marketing are as old as exchange itself’ (Baker, 2010). Marketing, in fact, is the science of studying buying and selling (Sharp, 2013) and is defined as the ‘activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large’ ( Lamb *et al.*, 2018).

Exchange and survival on a daily basis in BOP-SM is based on empathy, relational exchanges and a form of community marketing system (Viswanathan, 2016; Venugopal & Viswanathan, 2015; Viswanathan *et al.*, 2014) that attempts to provide also for social and cultural needs over and above those of economic needs. In this perspective, marketing takes a more ‘meso view’ in terms of community marketing systems as well as a ‘marco view’ as when marketing is seen ‘at the macro level, it is a process for maximizing society’s overall satisfaction, of economic enrichment, from the consumption of scarce resources’ (Varey, 2010). Thus marketing, in this triple role (micro, meso and macro) considers exchanges and markets in terms of individual exchanges (micro), community exchanges (meso) as well as national exchanges (macro) that contribute to individual, community and societal enhancement, cultural changes and economic development.

As per the predominance of agricultural and food trade in BOP-SM, marketing of agri-food products occurs in urban, peri-urban and rural and remote areas. Urban marketing tends to be ‘highly competitive, sophisticated, and often focused and targeted at middle and high income consumers’ (Krishnamacharyulu & Ramakrishnan, 2011), while rural markets tend to be, as a segment, heterogeneous (Kripanithi & Ramachander, 2018). Rural areas<sup>10</sup> commonly, but not always, provide for ‘dependence on agriculture, fragmented markets, uneven development, irregular demand, heterogeneity in lifestyles, lack of social mobility, low and non-regular income streams, lack of steady consumption, diversity of occupations, low literacy levels, limited accessibility, limited awareness and acceptance of products and services, differences in the macro and micro-environment of consumers, as well as the creative use of products’ (Kashyap, 2016; Modi, 2012; Krishnamacharyulu & Ramakrishnan, 2011; Velayudhan, 2007). Hence, in this regard and in rural areas, marketing is defined as ‘the process of developing, pricing, promoting, distributing rural specific goods and services leading to exchanges between urban and rural markets which satisfies consumer demand and also achieves organisational objectives’ ( Singh & Pandey, 2005). However the focus is not just marketing in the rural and urban interface, i.e. urban to rural marketing, but also rural to rural marketing, as well as rural to urban marketing (Jha, 2012). Thus rural and urban marketing have separate disciplinary areas based not only on geographical location, but far more on ‘variation in consumer behaviour and income levels as well as by the considerable differences in the macro- and micro-environment of consumers’ (Velayudhan, 2007).

### **Agri-food marketing: the micro, the meso and the macro levels**

Commonly as countries develop, urbanization increases and agricultural areas, mainly set in rural contexts, need to feed ever growing urbanized populations over greater distances (FAO, 1997). This implies that agri-food marketing and related marketing systems need to provide further spatially and intensive distributed food with the inherent outcome of better social wellbeing and consequently improved standards of living. Agri-food marketing is basically a series of functions, task and services involved in ‘moving a product (or commodity) from the point of production to the point of consumption’ (FAO, 1997). The agri-food marketing system ‘comprises all of the functions, and agencies who

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<sup>10</sup> More than ‘44 percent of the global population lives in rural areas and in the least-developed parts of the world, the population remains predominantly rural (about two thirds of just over a billion people) (World Bank, 2021)

perform activities, that are necessary in order to profitably exploit opportunities in the marketplace and each of the components are independent of one another, as a change in any one of them impacts on the others as well as upon the system as a whole' <sup>11</sup>(FAO, 1997).

Typically an effective agri-food marketing system will provide and expand the range of products provided to consumers as well as being able to serve more consumers (FAO, 1986). However in BOP-SM there is a lag between production and marketing of food as it is not just sufficient to increment food production, as what is needed in parallel is incremental investments in agri-food marketing systems, such as for example in marketing hard infrastructure (wholesale and retail markets, for example) as well as legislation and other institutional aspects governing exchange (Tollens, 2010). Such investments should be focused on local assets so as to provide for benefits to the local economy and consequently to local communities (Poole, 2010). Agri-food marketing systems improvement thus implies a micro, meso and macro marketing approach, in particular, for example, competent government services, training, better packing, transport and storage, quality standardization, plan and construct better markets, strengthen marketing coordination and organization, and provide for more equality (FAO, 1986). Further agri-food marketing has, by its very nature, strong natural environmental, societal, community and quality of life intended outcomes: for example in terms of, improved distribution and access to nutritious foods, safety, health, less environmental impact and so forth (Lacal, 2019).

In agri-food marketing there is also a need, as provided previously, to consider the macro or aggregate matters of marketing. Macromarketing deals with matters over and above the comparatively simple exchanges between buyers and sellers, or even relationships between companies and customers' (Shultz, 2007): it is mainly concerned, as an outcome, with the creation and delivery of a standard of living (Layton, 2007) i.e. for the public good and society at large. Hunt (1981) provides that macromarketing refers to the study of '(1) marketing systems (macrosystems analysis), (2) the impact and consequence of marketing systems on society (social sanctions), and (3) the impact and consequence of society on marketing systems (marketing externalities)'. In other words, macromarketing mainly deals with the impact of the marketing system on society (Kadirov, 2011), how society impacts the marketing system and within this, tries to better understand how individuals and societies adapt, learn and innovate (Kenton, 2021). It considers such areas, for example as innovation, market competition, globalization, the natural environment, distributive justice and ethics, economic development, quality of life, local, regional, national and global societies, and public policy' (Shultz, 2007; Shawver & Nickels, 1981) and this implies that 'marketing is a social institution that is highly adaptive to its cultural and political context' (Wilkie & Moore, 1999). The intended outcome of macromarketing efforts are that 'markets, marketing, and marketing systems should improve life-quality and well-being' (Shultz & Wilkie, 2020), this being done via 'creating, assembling, transforming, and making available assortments of products, both tangible and intangible, provided in response to customer demand' (Layton, 2007). Hence in terms of agri-food macromarketing matters, it deals with, for example, wholesale and retail market structures, infrastructure (roads, water, energy, communications), national food safety systems, national market information systems, price controls and subsidies, agricultural and food distribution policies and so forth.

Macromarketing can provide inputs for 'micromarketing improvements and thus support economic development via transfer of technology, investment in market support facilities, improvement in market infrastructure, and production for local markets' (Cundiff, 1982), and thus this implies that marketing occupies a 'critical role in development as it provides for economic integration, productive capacity and resource utilization, mobilizing latent economic energy as well as fostering

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<sup>11</sup> A generic marketing system is defined as the 'embodiment of social mechanisms of life support and provisioning' (Kadirov, 2011) and marketing systems are 'complex adaptive, social networks in which both structure and function and in which purpose derives from a dynamic matching of goods and needs' (Layton, 2007). A marketing system 'is a network of individuals, groups, and/or entities linked directly or indirectly through sequential or shared participation in economic exchange that creates, assembles, transforms, and makes available assortments of products, both tangible and intangible, provided in response to customer demand' (Layton, 2007). Marketing systems provide for a prominent and important role in economic activity: 'marketing systems involve repeated and systematic exchange among members, are relational, implying shared participation, stability, known actors, as well as predictability of exchange partners' (Redmond, 2018).

entrepreneurship' (Drucker, 1958). In fact 'micromarketing can inherently contribute to the marco level' (Singh & Bharadwaj, 2016) and macromarketing can provide support to micromarketing (Kotler *et al.*, 2006).

Mesomarketing<sup>12</sup>, is focused at the 'mid-level' between the micromarketing of individual exchanges and the macromarketing of national exchanges. It focuses, for example, on such matters as local industrial and sectorial areas within communities, such as local agricultural and food sectors, agri-processing areas/hubs, business to business networks in a local area, such as supply chains and distribution channels (Layton & Duffy, 2018) as well as community level marketing systems. Layton (2015) considers mesomarketing in terms of a community marketing system (community wide exchange networks), that is part of a multiple level of marketing systems and that the interactions between these micro, meso and macro level are important. From a micromarketing perspective, Viswanathan, (2016); Venugopal & Viswanathan, (2015); and Viswanathan *et al.*, (2014) consider mesomarketing in BOP-SM contexts as a form of community marketing system that attempts to provide also for social and cultural needs over and above those of economic needs. It is the 'community marketing systems that arise out of micro-level interactions between subsistence entrepreneurs and their customers that form the glue holding the informal economy together in subsistence economies' (Viswanathan *et al.*, 2014). This provides for a far more social, relational and community nature of marketing' (Viswanathan *et al.*, 2008; Viswanathan *et al.*, 2007). Moreover, Venugopal & Viswanathan (2017), provide that marketplace exchange, is central to the lives of poor consumers and entrepreneurs, and these are commonly embedded within relations, empathy and importantly community connotations, this referring to marketing providing for people-for-people benefits (Kotler, 2021) and thus having intended outcomes that are overall societal as well as a better and higher standard and quality of living.

As per the above, a functioning agri-food marketing system thus 'depends on performance both in a narrow economic sense and in a wider social sense' (Layton, 2009), i.e. a macro, meso and micro approach to agri-food marketing. This approach to agri-food marketing is much in line with that of what Kotler *et al.*, (2021), provide, in that marketing activity 'has to be aligned with a focus on people-for-people benefits as the creation of human-to-human marketing establishes a new approach that puts human beings at the centre of marketing: marketing should work for the people, not against them'. This convergence of macro, meso and micro marketing has put at the centre stage a human centric approach (Kotler *et al.*, 2010) that considers social, cultural, economic, technological, environmental, and collaborative aspects and importantly more towards a higher degree of convergence between digital marketing and traditional marketing (Kotler *et al.*, 2017). The focus of marketing is being 'inclusive, social, focusing on communities of consumers and partners for co-creation and with competitors for co-competition' (Kotler *et al.*, 2017). This is clearly based on human values of 'trust and service to others, which are the foundations of human economic activity rather than the sale of commodities and luxuries' (Kotler *et al.*, 2021).

### **Digital agriculture and agri-food systems**

Agriculture provides for 24 percent of greenhouse gas emissions, has a large impact on the natural environment, consumes an estimated 70 percent of freshwater and contributes to a good deal of biodiversity loss, costing, in terms of negative externalities, circa US\$12 trillion (World Bank, 2021). Farming, commonly and most often, occurs in rural areas, penalizing as per the remoteness, access to markets, services and information. Further small-scale farmers, in the majority of the 570 million global farming population, located mainly in developing economies, make and take decisions, based around capital, inputs, land, labour and natural resources, that affect local, provincial, national, regional and global agri-food systems. Much in the same manner, the circa 7.7 billion global food consumers make and take decisions on what they will consume, based on mainly food prices, consumption necessities (needs and wants), personal preferences and tastes as well as aspirations. This vast global agri-food system, thus is interconnected with not only agri-food production and consumption patterns, but with the overall health of populations, economy, climate and natural environmental resources. Such a system is highly complex, with high transaction costs, and pervasive information asymmetries as well as the

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<sup>12</sup> In terms of mesomarketing there is a lack of literature focused on the subject matter in specific. Usually and often it is considered in the realm of literature related to macromarketing and to some degree that of micromarketing.

system involving many actors exchanging vast amounts of information' (World Bank, 2021). Information and transaction costs are an integral part of the agri-food system and are found everywhere in such a system (World Bank, 2021). In this regard, digital technologies may enable the tracking, storing, analysis and use of such information.

Digitization, in fact, is the latest 'revolution' in agriculture as over the millennia there have been others. The first dates back to about 10 000 BC (settled agriculture), then between the 1900 and 1930 there was the mechanization revolution, this followed in the 1960s by the green revolution (new resistant crops, agrochemicals, etc., ), then the 'genetic modification revolution' between 1990 to 2005 (FAO, 2019). However the digital revolution diverges from the other past revolutions in that 'rather than spreading sequentially from on-farm innovations, it is emanating simultaneously from multiple entry points along the food chain' (World Bank, 2021). This as a result of being able to collect, use, and analyse 'massive amounts of machine-readable data about practically every aspect of the value chain, and the emergence of digital platforms disrupting business models in the agri-food system' (World Bank, 2021).

Hence in this latest agricultural revolution, potentiality digitalization has the ability not just to change agriculture, for example with the 'further spread of mobile technologies (smartphones), remote sensing services and distributed computing, enabling new opportunities to integrate small-scale farmers in new digitally driven agri-food systems' (FAO, 2019), but also can 'affect the way that input providers, processing and retail companies market, price and sell their products as well as management of resources towards highly optimized individualized, intelligent and anticipatory management, in real time, hyperconnected and driven by data' (FAO, 2019). In other words, agri-food systems will be more predicative, adaptive and mitigative to climate change, more productive, provide for better food safety and security, be more profitable and overall more environmentally sustainable (FAO, 2019). However there are also challenges to overcome in the digitalization of agriculture and agri-food systems in BOP-SM. These are related to such aspects as, for example, lack of access, weak information technology infrastructure and networks, lack of employment, digital literacy, and education, all especially in rural areas (FAO, 2019).

### **Agri-food marketing in the bottom of the pyramid/subsistence markets: The characteristics**

Marketing exchange within many poor communities in developing countries falls outside the formal market economy (Viswanathan *et al.*, 2012) and thus most agri-food marketing occurs in the informal agri-food economy, that pervades BOP-SM contexts. The BOP-SM, for example in Africa, are 'highly personalized, characterised by severe resource constraints on both the producer and consumer sides of the market, and markets are volatile' (Muthuri & Farhoud, 2020). Further as provided by Kripanithi & Ramachander (2018) rural consumers are different from urban consumers and the needs and perspective of the customer is distinct from the Middle of the Pyramid (MoP) (Purohit *et al.*, 2021). 'What is not effective in rural markets is assuming that the rural consumer is price sensitive enough such that they would purchase stripped down products with inadequate features. In fact, the rural customer has more specific requirements for features to suit their more challenging living conditions' (Naidu, 2017).

Many consumers in BOP-SM, attempt to cater for their lack of 'consumer illiteracy' via 'leveraging their social networks to gather as well as interpret various significant symbolic cues in the market' (Singh *et al.*, 2017) and have relational networks with other consumers, family and vendors (Viswanathan *et al.*, 2010). Consumers tend to be more sensitive, expect quality and reasonable prices, a better shopping experience, are attracted by discounts and gifts, and are supported by family and friends (Sharma & Gupta, 2021). In Asia and Africa, most of the BOP-SM context 'is dominated by rural markets, while urban areas are largely dominant in Eastern Europe and Latin America and in rural areas consumers tend to be very dispersed, while in urban areas consumers tend to be densely populated in defined urban areas' (Mathur *et al.*, 2018). Urban BOP-SM tend to be easier to access and provide for a more concentrated and ready market of consumers ( Mathur *et al.*, 2018), even though such contexts are inhabited by 'the economically and socially marginalized, commonly located on land over which the inhabitants do not hold legal title, as the inhabitants, typically have migrated to the slums from rural areas in order to exploit actual or perceived economic opportunities and such slums have inadequate access to safe water; inadequate access to sanitation and other infrastructure; poor structural quality of housing; overcrowding; and insecure residential status' (Anderson *et al.*, 2010).

Marketing in BOP-SM is defined by Chee Seng *et al.*, (2015) as ‘the process of developing, pricing, promoting and distribution of specific goods and services to the poor which satisfies the poor demand and also achieving organizational objectives’. Within this and per the particular nature and context of BOP-SM, marketing needs to consider social, economic, political, physical, technology, cultural, psychological as well as ethical factors (Chee Seng *et al.*, 2015), including the high levels of uncertainties faced in terms of economic, social, natural environmental and technological aspects (Viswanathan *et al.*, 2019). It is the ‘community marketing systems that arise out of micro-level interactions between subsistence entrepreneurs and their customers that form the glue holding the informal economy together in subsistence economies’ (Viswanathan *et al.*, 2014) as well as the implied macromarketing aspects of improving social well-being and quality of life. Thus agri-food marketing in BOP-SM tenders with not only the micro, exchanges between individual consumers and enterprises, but also with the meso, community-level exchanges as well as the macro level, national-level exchange systems.

Marketing needs to consider within such BOP-SM contexts the ‘chronic uncertainty, that gets exacerbated by transient shocks that may occur with untoward emergencies or calamities’ (Viswanathan & Sreekumar, 2017) and hence cater for variability and flexibility (Pels & Sheth, 2021). Consumers in the BOP-SM contexts tend to have lack of access to clean drinking water, affordable energy, transport, ‘have little in terms of material possessions and as per the limited income on top of this all tend to be value conscious, purchase decisions are made carefully and are complex, as for example habitual products, that are bought like food, are not bought in a routine manner, and reassurances on the reliability and worth of what is bought is a must’ (Benninger & Robson, 2015). Typically also, such consumers pay what is termed the ‘poverty premium’ this commonly being due to factors like ‘an inability to access retailers with lower prices, limited time to compare prices, or reduced or inefficient distribution to poorer neighbourhoods’ (Benninger & Robson, 2015). However consumers in BOP-SM will purchase and pay higher prices than commonly found in BOP-SM ‘if they are provided with a satisfactory solution to their needs and are reassured about the level of risk involved’ (McGrath *et al.*, 2021).

Marketing in the BOP-SM needs to address the ‘multitude and diversity of cultural factors and have a social function of educating consumers’ (Viswanathan *et al.*, 2019). Marketing requires immersion in such settings, so as to better understand the high specificity of such markets, and winning social and community trust and buy-in, partnering with local people, and creating long term relationships (Viswanathan & Sreekumar, 2017; Anderson *et al.*, 2010). In such contexts there is pervasive interdependence not only between buyers and sellers, but also with family, friends and others in the social and relational network (Chikweche & Fletcher, 2012a). There is also the dominance of orality, interactional empathy, and a focus on long term relationships as well as seller responsiveness to buyer demand, based on the typically high customization of one to one relational interactions and thus constant customization (Viswanathan *et al.*, 2012).

Further ‘despite resource constraints, people do not make decisions based solely on the immediate and the economically beneficial, but consider conflicting motivations at different spatial distances. But they are often only able to act at the immediate level due to bare survival necessities and lack of control over further distances’ (Viswanathan *et al.*, 2014). Consumers in BOP-SM ‘understand the importance of their relationships with others and the environment in order to bolster their survival both in the short- and long-terms and they also grasp the importance of growth to improve quality of life for themselves and the next generation. However, given imminent threats to survival, they often make trade-offs among survival, relatedness, and growth, engaging in behaviours that erode community and employ resources unsustainably’ (Viswanathan *et al.*, 2014). Consequently in BOP-SM marketing there is an inherent ‘high customization, focused on one-to-one relational and interactional nature of markets, and which goes beyond the market context alone. This further leads to a far more social, relational and community focused nature of marketing’ (Viswanathan *et al.*, 2008; Viswanathan *et al.*, 2007). In this regard and in terms of agri-food marketing in BOP-SM characteristics, 36 characteristics were identified and can be seen in Table 1.

**Table 1:** The characteristics<sup>13</sup> of agri-food marketing in the bottom of the pyramid-subsistence markets

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Relational
Trust
Social networks
Loyalty development focused
Adaptive by local context and location
Heterogeneity
Suitability
Innovative
Consumer critical needs research
Distribution focused
Consumer-entrepreneur relationship: Interdependence
Empathy sensitive
Cultural sensitive
Societal sensitive
Traditional norms sensitive
Religious sensitive
Community sensitive
Language and dialect sensitive
Visual sensitive
Pictographic
Oral sensitive
Information and communication technology focused
Communication for awareness development
Communication for educating
Two-way communication and interactivity
Partnerships with customers, NGOs, Public sector
Needs value based
Aspirational value based
Social interdependence for consumption
Co-creation of value
High level of customization and personalization
Acceptability
Affordability
Availability
Awareness
Win-Win outcome focused

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(Source: Based on Mathur *et al.*, 2020; Muthuri & Farhoud, 2020; Viswanathan *et al.*, 2019; Kripanithi & Ramachander, 2018; Naidu, 2017; Viswanathan & Sreekumar, 2017; Kashyap 2016; Benninger & Robson, 2015; Chee Seng *et al.*, 2015; Viswanathan *et al.*, 2014; Viswanathan *et al.*, 2012; Chikweche & Fletcher, 2012a; Krishnamacharyulu & Ramakrishnan 2011; Anderson *et al.*, 2010; Mulky, 2010; Weidner *et al.* 2010; Viswanathan *et al.*, 2008; Viswanathan *et al.*, 2007; Velayudhan, 2007)

### **Digital marketing: The characteristics**

In many BOP-SM, especially in rural areas, agri-food marketing has been confronted with a host of challenges, ranging from physical infrastructure, to actual physical distribution of products and services, to the uptake of technologies (Kashyap, 2016; Krishnamacharyulu & Ramakrishnan, 2011; Velayudhan, 2007). In rural and remote areas, for example, ‘education and literacy rates are generally lower, and mobile phones tend to be used mainly for communication and social media’ (FAO, 2019) as people in BOP-SM ‘can be informed and communicate with each other at significantly lower costs than before’ (FAO, 2017). The adoption of information and communication technologies (ICTs) in urban as well as rural BOP-SM has reduced ‘information and transaction costs, improved service delivery,

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<sup>13</sup> In the analysis of the findings, a characteristic to be classified as valid and reliable had to be found at least three times (triangulation)

created new jobs, generated new revenue streams and saved resources and has transformed how businesses, people and governments work' (FAO, 2017). Indeed the progress, and importantly diffusion and ease of access to ICTs, has changed considerably social, economic, political and cultural life (Singh & Pandey, 2005).

This digital transformation has enabled marketing to further 'organize around the current customer and put the customer at the centre of the universe' (Charlesworth, 2018) as in fact 'several technologies together have facilitated the rise of digital marketing' (Zahay, 2021). Indeed marketing creates demand, but digital marketing 'drives the creation of demand using the power of the Internet and satisfies this demand in new and innovative ways' (Stokes, 2018). This rise of technology use within marketing will possibly provide for a further and more intensive convergence between digital marketing and traditional marketing (Kotler *et al.*, 2017).

Digital marketing is the 'application of digital media, data and technology integrated with traditional communications to achieve marketing objectives' (Chaffey & Ellis-Chadwick, 2019). In practice, digital marketing focuses on 'managing different forms of online enterprise presence, such as websites, mobile applications and social media pages, integrated with online communications techniques, including search engine marketing, social media marketing, online advertising, email marketing and partnership arrangements with other websites' (Chaffey & Ellis-Chadwick, 2019). Digital marketing can increasingly support a far more targeted and importantly inclusive marketing typology in terms of being better able at: identifying (market research), anticipating (access to information about products and services by customers), and satisfying customers wants and needs (customer service and relationship management). But it can enable also marketing to be more efficient (lower costs), have more reach, and provide for market penetration and market development, product development, and diversification (Chaffey & Ellis-Chadwick, 2019). This is all enabled as digital marketing provides, for example, for some of the following: content (digital information about product and services), personalization (digital focus one on one relationships), virality (digital word of mouth), reversals (consumers digital comments on trust in products and services), programmatic and automation (digital marketing done via machines i.e. artificial intelligence), influencers (digital personalities to promote products and services), and affiliates (digital marketing via partnerships) (Zahaya, 2021; Charlesworth, 2018).

Consequently, marketing, with the aid of the digital, and its relevant 'big data' has become predictive, contextual, augmented, and importantly agile, so as to enable providing customers with highly personalized interactions (Kotler, *et al.*, 2017). Moreover the applications of marketing technology (Martech)<sup>14</sup>, which is more than simply distributing content via social media, for example, can enable marketing to rely on 'artificial intelligence (AI), natural language processing (NLP), sensor technology, and the internet of things (IoT), all of which have a great potential to not only provided for a more focused support of marketing, but be 'game-changing for marketing practices' (Kotler *et al.*, 2021).

Online consumer behaviour characteristics within the digital world are related to 'interconnectivity, ease of information diffusion, information relevance filtering, niche aggregation, micropublishing, and on demand at anytime and anywhere' (Ryan, 2021). The 'techniques' which are used by digital marketing are focused on supporting 'the objectives of acquiring new customers and providing services to existing customers that help develop the customer relationship through customer relationship management (CRM)' (Chaffey & Ellis-Chadwick, 2019) as getting 'closer to customers and understanding them better, adding value to products, widening distribution channels and boosting sales through running digital marketing campaigns' (Chaffey & Smith, 2017) has become far easier with digitalization. In fact, the interactivity and dialogical nature of the digital world and marketing, enables for the exchange of value (Stokes, 2018) as digital marketing facilitates discovery of what consumers value, but also and importantly, potentially the engagement with consumers, as 'any online journey goes through a number of different stages, starting with a lack of awareness about a topic all

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<sup>14</sup> Since '1450, when Gutenberg's printing press began its operation, leading to mass production of flyers and brochures, till the present time when automated posting of online advertisements has become very common, marketing has kept up incredibly well with changing technology as the transition from traditional to modern marketing has occurred over a period of time on the basis of fundamental technological changes impacting marketing' (Bhatia, 2019).

the way through to direct commercial intent and post purchase loyalty (or lack of!)’ (Rowles, 2017). This dynamic dialogue is at the heart of good marketing as it is also experiential (Chaffey & Smith, 2017).

The digitalization of marketing thus increases interactions, relations and engagements be it between customers, customers and enterprises and customers and other institutions, such as governments, for example. In this regard, digital marketing’s role rises in importance, as it facilitates interactions, relations and engagements, it provides more and more for advocacy, in terms of social inclusivity (Kotler, *et al.*, 2017). However, being inclusive is not similarity, ‘it is about living harmoniously despite differences, in the online world, where, for example, social media has redefined the way people interact with one another, enabling people to build relationships without geographic and demographic barriers and within which provides people with a sense of belonging to their communities’ (Kotler *et al.*, 2017). In this regard, 42 characteristics of digital marketing were identified and can be seen in Table 2.

**Table 2:** The characteristics of digital marketing<sup>15</sup>

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Networked
Partnerships
Affiliated
Social
Relational
Interactive
One to one relationships
High degree of social sensitivity and influence
Inclusive
Dialogical
Reputational
Integrated multiple media focused
Global and local
Content based
Visual based
Interactive
Proactive
Dynamic
Agile
Highly customer centric
Personalized
Customized
Online and offline interactivity and integration
Internet of Things focused
Artificial intelligence focused
Virtual and augmented reality focused
Automated
Predictive orientation
Promotional
Viral
Consumers as marketers (reverse marketing)
Data driven
Highly analytical
Highly strategic
Highly tactical
Process focused
Planned

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<sup>15</sup> In the analysis of the findings, a characteristic to be classified as valid and reliable had to be found at least three times (triangulation)

Highly operational  
 Programmatic  
 Active monitoring  
 Active evaluation  
 Return of marketing investment oriented

(Source: Based on Kotler et al. 2021; Zahay , 2021; Ryan, 2021; Charlesworth 2018; Chaffey & Ellis-Chadwick, 2019; Stokes, 2018; Kotler et al. 2017; Chaffey & Smith 2017; Rowles, 2017; )

## Discussion

The characteristics of both agri-food marketing in the BOP-SM and digital marketing can be seen in Table 3.

**Table 3:** The characteristics of agri-food marketing in the BOP-SM and digital marketing

Agri-food marketing in the BOP-SM <sup>16</sup>	Digital marketing <sup>17</sup>
Relational	Networked
Trust	Partnerships
Social networks	Affiliated
Loyalty development focused	Social
Adaptive by local context and location	Relational
Heterogeneity	Interactive
Suitability	One to one relationships
Innovative	High degree of social sensitivity and influence
Consumer critical needs research	Inclusive
Distribution focused	Dialogical
Consumer-entrepreneur relationship: Interdependence	Reputational
Empathy sensitive	Integrated multiple media focused
Cultural sensitive	Global and local
Societal sensitive	Content based
Traditional norms sensitive	Visual based
Religious sensitive	Interactive
Community sensitive	Proactive
Language and dialect sensitive	Dynamic
Visual sensitive	Agile
Pictographic	Highly customer centric
Oral sensitive	Personalized
Information and communication technology focused	Customized
Communication for awareness development	Online and offline interactivity and integration
Communication for educating	Internet of Things focused
Two-way communication and interactivity	Artificial intelligence focused
Partnerships with customers, NGOs, Public sector	Virtual and augmented reality focused
Needs value based	Automated
Aspirational value based	Predictive orientation
Social interdependence for consumption	Promotional
Co-creation of value	Viral
High level of customization and personalization	Consumers as marketers (reverse marketing)
Acceptability	Data driven
Affordability	Highly analytical
Availability	Highly strategic
Awareness	Highly tactical
Win Win outcome focused	Process focused

<sup>16</sup> Source: Based on Mathur et al., 2020; Muthuri & Farhoud, 2020; Viswanathan et al., 2019; Kripnithi & Ramachander, 2018; Naidu, 2017; Viswanathan & Sreekumar, 2017; Kashyap 2016; Benninger & Robson, 2015; Chee Seng et al., 2015; Viswanathan et al., 2014; Viswanathan et al., 2012; Chikweche & Fletcher, 2012a; Krishnamacharyulu & Ramakrishnan 2011; Anderson et al., 2010; Mulky, 2010; Weidner et al. 2010; Viswanathan et al., 2008; Viswanathan et al., 2007; Velayudhan, 2007

<sup>17</sup> Source: Based on Kotler et al. 2021; Zahay , 2021; Ryan, 2021; Charlesworth 2018; Chaffey & Ellis-Chadwick, 2019; Stokes, 2018; Kotler et al. 2017; Chaffey & Smith 2017; Rowles, 2017

Planned  
 Highly operational  
 Programmatic  
 Active monitoring  
 Active evaluation  
 Return of marketing investment oriented

From Table 3, the characteristics were compared between agri-food marketing in the BOP-SM and digital marketing and the results of such a comparison are shown in Table 4.

**Table 4:** Characteristic similarities between agri-food marketing in the BOP-SM and digital marketing

Relational  
 Personalized  
 Customized  
 Dialogical  
 Interactive  
 Inclusive  
 Interdependence  
 Visual  
 Oral  
 Language sensitive  
 Co-creation of value  
 Partnerships  
 Needs-based  
 Aspirational-based  
 Loyalty  
 Trust-based  
 Socially sensitive  
 Culturally sensitive  
 Community sensitive  
 Socially networked  
 Social consumption  
 Agile  
 Adaptive  
 Dynamic  
 Predicative  
 Proactive  
 Innovative  
 Educative  
 Planned  
 Strategic  
 Tactical  
 Monitoring  
 Evaluation

In the analysis of research findings the characteristics were compared and those found to be identical or similar were included in Table 4. In terms of characteristics being identical, for example, the same characteristic of ‘relational’ was found in both agri-food marketing in the BOP-SM and in digital marketing. In terms of similarity, for example, the characteristic found in agri-food marketing in the BOP-SM ‘ visual sensitive’ was similar to the characteristic of ‘ visual-based’ in digital marketing. Hence, similarity in comparison was based more on degree, than on an absolute.

The comparison of the characteristics found a total of 33 characteristics that were identical or similar between agri-food marketing in BOP-SM and digital marketing. This provides for a good majority of characteristics that are identical or similar between agri-food marketing in the BOP-SM and digital marketing. For example, both typologies of marketing are relational in nature and in essence;

commonly they foster personalization and customization and are prone to be dialogical as per the interactivity implied; both are visual and can be oral, even though in terms of digital marketing this may mean not only voice to voice marketing messages over mobile phones, but recorded oral marketing messages that are also visual and interactive in nature; such orality can be language sensitive and provide for target marketing messaging in local languages and dialects. These are only some of the examples that provide evidence of similarities, if not amalgamation between the two typologies of marketing characteristics.

These characteristic findings are interesting as it seems that both typologies of marketing have more in common, then they have in divergence. It seems that the online world, tends to replicate marketing in BOP-SM contexts, where, for example, consumers have relational networks with vendors, consumers and others in the community, forming more of an inclusive community marketing system (Singh *et al.*, 2017; Viswanathan *et al.*, 2014; Viswanathan *et al.*, 2010), then a marketing system based on the individual. Much the same can be seen in terms of digital marketing where the focus is on relationships not just between customer and enterprise, but also with online community members, which is social and inclusive (Zahaya, 2020; Chaffey & Ellis-Chadwick, 2019; Charlesworth, 2018) and puts the customer at the centre of the universe (Charlesworth, 2018). Further digital marketing provides for getting 'closer to customers and understanding them better, adding value to products, widening distribution channels and boosting sales through running digital marketing campaigns' (Chaffey & Smith, 2017). This being similar to marketing in the BOP-SM where vendors are effectively immersed in such settings, 'so as to better understand the high specificity of such markets, and winning social and community trust and buy-in, partnering with local people, and creating long term relationships' (Viswanathan & Sreekumar, 2017; Anderson *et al.*, 2010). In such BOP-SM contexts as well as in digital contexts there is pervasive interdependence not only between buyers and sellers, but also with family, friends and others in the social and relational network (Chikweche & Fletcher, 2012a).

Moreover and interestingly also in digital marketing there is the triple role of marketing being at the micro, meso as well as at the macro marketing level, fostering 'inclusive and social communities of consumers and partners for co-creation, this being based on human values of trust and service to others, with an intended outcome of human to human benefits' (Kotler *et al.*, 2021; Kotler *et al.*, 2017). This all being inherently inclusive: 'it is about living harmoniously despite differences, in the online world, where, for example, social media has redefined the way people interact with one another, enabling people to build relationships without geographic and demographic barriers and within which provides people with a sense of belonging to their communities' (Kotler *et al.*, 2017).

## Conclusions

What emerges from the research clearly is that there are major characteristic similarities between the two typologies of marketing and thus this provides for evidence that effectively agri-food marketing in the BOP-SM and digital marketing have fertile ground on which to amalgamate. In fact the amalgamation, agri-food digital marketing in the BOP-SM, having a physical and online world presence can only but increase and foster further the intended outcomes of agri-food marketing in BOP-SM. This is important, as seemingly, agri-food marketing to date, in some instances and unfortunately, in developing and transition economies, has not provided for the required in terms of regular, cyclical, intensive, effective, efficient and appropriate spatial distribution of food. In BOP-SM contexts there is a lag between production and marketing of food as it is not just sufficient to increment food production, as what is needed in parallel is incremental investments in agri-food marketing systems, such as for example in marketing hard infrastructure (wholesale and retail markets, roads, etc.) as well as legislation and other institutional aspects governing exchange (Tollens, 2010), commonly focused on local assets so as to provide for benefits to the local economy and consequently to local communities (Poole, 2010). However, investments in digital technologies and networks, and in particular in agri-food digital marketing, may provide for the required supporting, enhancing, and ameliorating effects of such digitalization which can contribute to making agri-food marketing and its food distribution intended outcomes in BOP-SM contexts far more regular, cyclical, effective, efficient, intensive, and spatially appropriate.

From the research there is clearly far more research required in agri-food marketing in BOP-SM, with a particular focus of amalgamating it with digital marketing, in other words more research is required in agri-food digital marketing in BOP-SM contexts specifically. Literature tends to be lacking

relatively and comparatively on the subject matter in particular, and possibly Table 4 can be used as a 'guide' for such further research and can support much further the digital within agri-food marketing. Within this realm some further aspects can be further researched, for example the seeming need to consider not only the micromarketing individual level, but also the mesomarketing level (community level) as well as the macromarketing level (national level) within agri-food digital marketing. What is most notable, however, is the lack of mesomarketing research at the community level for both agri-food marketing as well as digital marketing and as such further research is needed also here in the realm of agri-food digital marketing.

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