What are the marketing practices of agricultural mechanization hire service enterprises in development contexts? A review

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ABSTRACT
The aim of the research was to attempt to ascertain and better understand the marketing practices of agricultural mechanization hire service enterprises (AMHSEs) in development contexts. The research approach taken was mainly qualitative and abductive. It took an exploratory, historical and descriptive approach and was based on two literature research and reviews and online key informant one-to-one in depth interviews. The analysis conducted on the findings was based on thematic analysis using a theoretical framework, constructed and based on different types of marketing and their related characteristics. The results of the research provided that there was scant evidence in sources of secondary data and information on AMHSEs’ marketing practices and from the interviews very much the same also emerged. However, seven AMHSEs’ marketing practices were found from the research and these were: networking; ascertaining farmers’ and other agri-food value chain actors’ demand; booking services; pricing of services; distribution and promotion of services; contracting; and partnering. What also emerged clearly from the research was that the subject matter of AMHSEs’ marketing practices was novel in nature as seemingly little, if any, research had been conducted on the subject matter previously. Consequently much further research is needed within this unexplored realm of research.

Keywords: Marketing; Services marketing, Rural marketing, Micro-enterprise marketing, Small-enterprise marketing, Agricultural mechanization hire service enterprise, Agricultural mechanization

Introduction
The existence of enterprises devoted to agricultural mechanization hire services in the agri-food sector in development contexts is based on many factors, but one of the principal reasons of agricultural mechanization hire service enterprises (AMHSEs) is the high cost of buying machinery that farmers confront as equipment costs represent the ‘second largest draw of capital for farmers’ (Gilbert, 2018). Often, but not always, AMHSEs tend to be seen mainly as enterprises that are business oriented. For example, this is documented by Issa (2017), Paman et al., (2014), Belton et al., (2018) and Abaidoo & Belton, (2019), only to mention a few. Further, efforts have also been made, via training materials, to promote AMHSEs as a business, for example, by CIMMYT (2016), CAPSA-ESCAP (2016) and FAO (2018). However, Hilmi (2021a), in a review of agricultural mechanization hire services as an enterprise, covering 19 countries, found that in the majority of cases such enterprises were mainly business-oriented enterprises, but also to a greater and lesser degree, had social and community-based type enterprise orientations. Most AMHSEs found in the research were in the majority of cases micro-sized enterprises, followed to a lesser degree by small-sized enterprises and then to an even lesser degree by medium and large-sized enterprises. Such enterprises were mostly privately owned, but also publicly owned as well as a combination of public and privately owned AMHSEs. Within this research, though, Hilmi (2021a), yet again, found that there was scant evidence on AMHSEs’ marketing practices. Much
the same had also been found in previous researches by Hilmi (2013; 2018; 2021b). This was interesting, as in terms of an enterprise as a business as well as in social and community-based enterprises, marketing practice is an important, if not vital, component. Marketing facilitates and enables the commercialization of services, for example, via attempting to better understand farmers’ demands for services, providing for the service product that farmers require, pricing the service, distributing the service and implementing the service within the required timeframe. Consequently this seeming gap in knowledge (and research) provided for and motivated this research.

Research aim
The aim of the research was to attempt to ascertain and better understand the marketing practices of AMHSEs in development contexts.

Background to research
The context
Agricultural mechanization hire service enterprises (AMHSEs) provide most commonly services devoted to farm production and concern land preparation, planting and spraying (FAO, 2012). Hilmi (2013, 2018, 2021a, 2021b) found that common services provided after farm production are post-harvest services, (threshing, shelling, drying, storage operations), processing services (milling, grinding, pressing and packing), marketing services (transport, packing, street hawking) as well as transport services for people, products, potable water and waste collection. Issa (2017) provides that AMHSEs service also electrification and road construction. Further with the fast increase in technology innovation, the rapid diffusion of digitization and increasing automation, all have contributed to increasing the variety of services that are being provided by AMHSEs. Such services, for example, come in the form of drone services, ground and aerial-based, that provide such services as ‘soil fertility management, irrigation and water management, weed management, disease and pest control, production agronomy and crop yield estimation and forecasting’ (Krishna, 2018). Moreover in terms of service automation, Zhang & Pierce (2013), provide that, for example, the ‘automation of crop production, irrigation, pesticide application, and post-harvest operations are viable with robot guided tractors, combines, and transplanters’. Indeed guidance systems can be applied to all ‘kinds of equipment (e.g. tractors, combine-harvesters, sprayers, planters, etc.) and as part of a broader range of different agricultural applications’ (FAO, 2019).

Prevalently AMHSEs are found, and provide services, in rural areas (Hilmi, 2021a), but have also been found in peri-urban areas, for example as found by Hilmi (2021b) in Iraq as well as in urban areas as found by Hilmi (2018) in Kenya. Most often within such rural, peri urban and urban contexts, AMHSEs operate in what is termed bottom of the pyramid (BOP)/subsistence marketplaces (SM) contexts. The BOP refers to the poorest in the economic human pyramid (Prahalad, 2010) and SM consists of consumer and entrepreneur communities living at a range of low-income levels (Viswanathan & Rosa, 2007). Globally there are circa four billion people who live and work in the BOP/SM contexts, of which 75 percent or 3 billion, live in rural areas (World Bank 2016b) and 25 percent or 1 billion live in urban slums (GIZ, 2012). Currently, 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 (World Bank, 2018, World Bank 2016a). Thus about 50.9 percent of the world population live and work in BOP/SM contexts of which the majority live and work in rural areas.

Commonly rural areas have low population densities, uneven development, fragmented markets, lack of steady and sustainable consumption, diversity of occupations, heterogeneity of lifestyles, low income streams (Krishnamacharyulu &Ramakrishnan, 2011) and rural populations being scattered are more tedious to reach as larger distances need to be travelled to furnish products and/or services. Further in such contexts, for example, subsistence farmers ‘typically have different objectives than commercial farmers. The difference in objectives is reflected in beliefs, attitudes, and investment patterns. Subsistence and commercial farmers also have ‘different risk tolerance levels when it comes to savings and issues of food security. Subsistence farmers tend to have less tolerance for risk than commercial farmers, as most of them are on the borderline in terms of savings and liquid assets’ (USAID, 2012) and are thus not overly prone to use services provided by AMHSEs. Further in terms of other agri-food value chain actors, such as traders and food processors, for example, Hilmi (2018) found that such
actors had perceptual, cognitive, social, economic and financial barriers to using services from AMHSEs. Moreover, subsistence farmers and other agri-food value chain actors, as per their prevalent location in rural areas, have ‘limited access to information; limited access to advanced technologies; lack of access to markets and fair prices for produce sold; difficulty in keeping up with the high demands for quality standards in competitive and increasingly liberalized markets; as well as the more recent challenges of coping with the impact of climate change and longer term sustainability’ (FAO, 2017a). Hence and clearly in such contexts, subsistence farmers and other agri-food value chain actors tend to be risk averse and hence less willing to try and use ‘new farming technologies’ as, for example, those provided by AMHSEs’ services.

In this regard, and as provided by Trace (2015), cultural choices, rather than any inherent logic or usefulness of a particular technology, determines seemingly whether or not technologies are adopted; in other words, the awareness of particular technologies, tools or machines for example, does not automatically force a society to adopt them or to keep them. There is a need to keep such expectations and ensure a societal balance as there are material, relational and subjective aspects to technologies that need to be considered as it should not be presumed that the invention of the combustion engine should spell the end of horse-drawn-transport and ploughs (Trace, 2015). However, the presence and availability of ‘technologies’ provided by AMHSEs’ services in rural areas is prevalent in most countries around the world, where there is potential demand for AMHSEs’ services, but the effective demand for their services is far from a given matter. In this regard Hilmi (2018), for example, provides that to overcome personal barriers by farmers and other agri-food value chain actors in using AMHSEs’ services it is not sufficient just to create awareness about what AMHSE’s services are and what they can do, but enable and facilitate a better understanding for farmers and other agri-food value chain actors on the outcomes of the services and how such services can actually enhance livelihoods. This alludes to not just the promotion of AMHSEs’ services in rural areas to create awareness, but more importantly to ‘educate’ rural populations about AMHSE’s services, their benefits and how such services can improve livelihoods. This ‘educative stance’ implies a two way communication, social and relational system, where engagement and co-learning can occur, but more importantly a holistic and integrated approach that includes also other factors beyond promotion, communication and education can be included. For example, how are AMHSE’s services operationalized, the timing of services, pricing of services, distribution and quality standards set on services and so forth. Such an integrated approach is usually defined by marketing practice. Within this realm of marketing practices of AMHSEs what needs to be considered, though, is the nature of the products sold, in this case services, the varying sizes and ownerships of AMHSEs found, the social and community based orientations of AMHSEs as well as the context, rural and BOP/SM and, the increase in diffusion, accessibility and use of information and communication technologies (ICTs). Consequently in the research, marketing practice was considered with regard to marketing services, digital marketing, marketing by enterprise size, social marketing and marketing in rural and BOP/SM contexts.

Marketing
Marketing is far from anything new. It has been around for millennia and has been practiced knowingly and unknowingly by traders, enterprises and communities alike. Early documented traces of marketing date back as far as 10,000 years ago in Mesopotamia, were early settled communities, following the agricultural revolution, marketed surplus produce (see for example Postgate 1992; Black 2004; Charvat 2002; Hunt 2005; Nissen & Heine, 2009). Sutton & Klein (2003) provide that fundamentally ‘a marketer is a businessperson’ and marketing is the major activity in an enterprise that focuses on and deals with customers (Armstrong et al., 2015).

Marketing is a ‘social and managerial process by which individuals and organisations obtain what they need and want through creating and exchanging value with others’ (Armstrong et al., 2015). In its

1 These different types of marketing and related characteristics were used to construct a theoretical framework for the analysis of findings as can be seen in Table 7.

2 Of interest also here and in the case of AMHSEs in particular is that in early Mesopotamia there were ‘prescribed legal levels for the hire of carts and animals as well as farmers’ (Postgate, 1992). Further Hammurabi’s code, provided for ‘Law 268: If a man rents an ox for threshing, 20 silas of grain is its hire’ (Black, 2004 & Postgate, 1992)
simplest form ‘marketing is managing profitable customer relationships and is not just about selling and advertising’ (Armstrong et al., 2015). Marketing is primality about ‘understanding consumer needs, developing products and services that provide superior customer value, distributing, promoting and pricing them effectively, and building profitable, value-creating exchange relationships with customers’ (Armstrong et al., 2015). Marketing is in fact as ‘much attitude as action, as much perspective as planning’ (Armstrong et al., 2015). Hence, marketing is the ‘process by which companies create value for customers and build strong customer relationships in order to capture value from customers in return’ (Armstrong et al., 2015).

Marketing is based on five fundamental concepts: understanding customer needs, wants and demands; offerings to fulfil such needs and demands, such as for example via physical products, services, information and experiences; providing customer value and satisfaction; exchange and relationships; and markets (Kotler & Armstrong, 2018). Marketing thus involves a process of attempting to understand customer demand, creating a physical product or service or both to attempt to fulfil consumer demand, in the hope that the product or service or both will provide value and satisfaction and deliver the physical product or service or both via exchange and relationships in a market. The main characteristics of marketing can be seen in Table 1.

Table 1: The main marketing characteristics

<table>
<thead>
<tr>
<th>Exchanges</th>
<th>Market-information centered</th>
<th>Market and customer segmentation</th>
<th>Markets and customers targeting</th>
<th>Customer centered</th>
<th>Customer satisfaction</th>
<th>Customer relations</th>
<th>Employee relations</th>
<th>Communication</th>
<th>Promotion</th>
<th>Strategic</th>
<th>Planning</th>
<th>Integration</th>
<th>Coordination</th>
<th>Innovative</th>
<th>Experiential</th>
<th>Value creation</th>
<th>Co-creation of value with customer</th>
<th>Partnering</th>
<th>Networking</th>
<th>Natural environment sensitive</th>
<th>Societal sensitive</th>
</tr>
</thead>
</table>

Source: Based on Kotler & Armstrong, (2018)

Digital marketing

Over the past five decades with the incremental growth and use of various information and communication technologies and their diffusion and relative ease of accessibility, many people 4, for example, via computer, tablet and more often over mobile devices, have entered the so called ‘digital world’. Marketing has adapted accordingly to this ‘digital revolution’ and marketing and ‘marketing technology (martech) has adapted to the changing nature of consumer paths in the digital economy via the application of human-mimicking technologies to create, communicate, deliver, and enhance value across the customer journey’ (Kotler et al., 2017; 2021). Marketing that is digital is marketing that is ‘online whether via web sites, online ads, opt-in email, interactive kiosks, and interactive TV or mobiles:

3The marketing characteristics in Table 1 and the related marketing practices are commonly found most prevalently in medium and large-sized enterprises as such characteristics are more attuned to the more strategic planning nature of such enterprises

4 Currently there are five billion internet users, with circa one million new users per day (Kotler et al., 2021). However the main barrier to internet connectivity still remains affordability (Kotler et al., 2021).
it involves getting close to customers, understanding them better and maintaining a dialogue with them’ (Chaffey & Smith, 2013). Ultimately these technologies and their convergence has led to ‘a convergence between digital marketing and traditional (off-line) marketing in an approach that combines online and offline interaction between enterprises and customers’ (Kotler et al., 2017). The main characteristics of digital marketing can be seen in Table 2.

### Table 2: The main digital marketing characteristics

<table>
<thead>
<tr>
<th>Networked</th>
<th>Partnerships</th>
<th>Affiliated</th>
<th>Social</th>
<th>Relational</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High degree of social sensitivity and influence</td>
<td>Inclusive</td>
<td>Dialogical</td>
<td>Reputational</td>
<td></td>
</tr>
<tr>
<td>Integrated multiple media focused</td>
<td>Global and local</td>
<td>Content based</td>
<td>Visual based</td>
<td></td>
</tr>
<tr>
<td>Interactive</td>
<td>Proactive</td>
<td>Dynamic</td>
<td>Agile</td>
<td></td>
</tr>
<tr>
<td>Highly customer centric</td>
<td>Personalized</td>
<td>Customized</td>
<td>Online and offline interactivity and integration</td>
<td></td>
</tr>
<tr>
<td>Internet of Things focused</td>
<td>Artificial intelligence focused</td>
<td>Virtual and augmented reality focused</td>
<td>Automated</td>
<td></td>
</tr>
<tr>
<td>Predictive orientation</td>
<td>Promotional</td>
<td>Viral</td>
<td>Consumers as marketers (reverse marketing)</td>
<td></td>
</tr>
<tr>
<td>Data driven</td>
<td>Highly analytical</td>
<td>Highly strategic</td>
<td>Highly tactical</td>
<td></td>
</tr>
<tr>
<td>Process focused</td>
<td>Planned</td>
<td>Highly operational</td>
<td>Programmatic</td>
<td></td>
</tr>
<tr>
<td>Active monitoring</td>
<td>Active evaluation</td>
<td>Return of marketing investment oriented</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Based on: (Chaffey & Smith 2013; Kotler et al. 2017; Charlesworth 2018; Kotler et al. 2021)

### Marketing services

Agricultural mechanization hire service enterprises (AMHSEs) most commonly provide three types of ‘products’: rental, custom and leasing (FAO, 2012). These products in fact are all services, in that they involve providing not strictly a physical product, but a range of activities to provide for a service that does not involve a transfer of ownership indefinitely, but prescribed only to a period of time that may involve the implementation of the service or services. If comparing and defining services to physical products: physical products are ‘objects, devices, or things, whereas services are deeds, efforts, or performances’ (Hoffman & Bateson, 2011). Services are ‘economic activities performed by one party to another, that are often time based, and such performances bring about desired results to recipients,
A service as a ‘product’ has the following characteristics: they cannot usually be owned; they are intangible; they have a defined time span; they cannot usually be stored; they are often difficult to understand and visualize; commonly, but not always, services occur with the customer present while the service is being produced and/or the customer may be a part of the service delivery process; and services are heterogeneous (Hoffman & Bateson 2011; Wirtz & Lovelock 2018; Zeithaml et al. 2018). Consequently the marketing of services implies a number of factors to consider:

- Services are intangible in that they cannot be touched by consumers as in physical products for example, hence in services marketing efforts, services need to be made as ‘tangible as possible’;
- Services cannot be owned and cannot be ‘taken home’ by the customer, so in service marketing efforts, consumers need to be given a good sense and experience of ‘ownership’;
- Services are not easy to understand and visualize and hence service marketing efforts need to ‘educate’ consumers about the service to make it more understandable and real and the value and benefits it can provide;
- Consumers may have varying degrees of participation in a service production, hence service marketing efforts need to enable consumers to participate as well as educate them in how to participate;
- Services have a time factor involved and this provides that service marketing efforts, for example, provide a ‘speedy’ service;
- Services are heterogeneous as the same service carried out time and time again will never be the same as the previous service provided, hence service marketing needs to ensure quality standards in services provided so as to help reduce the heterogeneity of services;
- Services are commonly, but not always, difficult to distribute physically and hence service marketing efforts need to consider these distance and time factors in service distribution;
- Services cannot be inventoried like physical products, hence a service not provided today, is a service that cannot be provided tomorrow, thus service marketing efforts need to ensure that service operations are set at optimal capacity (Hoffman & Bateson 2011; Wirtz & Lovelock 2016, 2018; Zeithaml et al. 2018).

As per the above, services marketing is based on several fundamental factors: the service elements as a product; the place and time of service delivery; promotion and education on services; the service process and its delivery; the physical environment where the service takes place; people involved in the service process and delivery; and the price of the service. Consequently services require a ‘distinctive approach to marketing, because the context and the tasks often differ in important aspects from those in the manufacturing sector’ (Wirtz & Lovelock, 2016). Clearly then the marketing of services is thus significantly different from the marketing of physical products. The main characteristics of services marketing can be seen in Table 3.

Table 3: The main characteristics of services marketing

| Service as a performance | Perishability of service | Non-ownership of service | Intangibility of service | Variability of service | Production-consumption inseparability of service | Service recovery | Market information centred | Market and customer segmentation | Consumer dependent in co-creation of service | Experiential | Relational | Networked | Partnerships | Service process design | Service space and evidence | Communication and education |
Employees role in services
Managing demand and supply capacity
Planning
Service distribution

Source: Based on: (Hoffman & Bateson 2011; Wirtz & Lovelock 2016, 2018; Zeithaml et al. 2018; Wirtz & Lovelock 2018)

Marketing practice by enterprise size

Enterprises can be of differing sizes and commonly the size of the enterprise will usually, but not always, define the typology of marketing practiced. For example marketing practiced by micro and small enterprises will be different from marketing practiced by a larger enterprise as for example that found in Table 1. The differences though in marketing practices by enterprise size are not in absolute terms but by degree. Hilmi (2021a), found that the most prevalent size of enterprise of AMHSEs was micro-sized, followed by small-sized AMHSEs. In terms of the main marketing characteristics of micro and small-sized enterprises, Hilmi (2020), found the following as can be seen in Table 4.

Table 4: The main micro and small enterprise marketing characteristics

<table>
<thead>
<tr>
<th>Context Specific</th>
<th>Flexible</th>
<th>Inherent Informality In Structure</th>
<th>Restricted In Scope And Activity</th>
<th>Simple And Haphazard</th>
<th>Product And Price –Oriented</th>
<th>Owner/Manager Involvement</th>
<th>Networking</th>
<th>Relationships With Customers</th>
<th>Relationships With Staff</th>
<th>Competitive Alliances And Support</th>
<th>Intuitive</th>
<th>Opportunistic</th>
<th>Adaptive</th>
<th>Innovative</th>
<th>Risk-Taking</th>
<th>Change-Oriented</th>
<th>Customer –Focused Relationships</th>
<th>Morality</th>
<th>Religiosity</th>
<th>Resource Constrained</th>
</tr>
</thead>
</table>

Source: Based on: (Carson et al., 1995; Gilmore et al., 2001; Bjerke & Hultman, 2002; Chaston & Mangles, 2002; Carson, 2003; Simpson et al., 2011; Blankson et al., 2018; Gilmore & Carson, 2018)

In terms of micro-sized AMHSE, Hilmi (2021a) found that in the majority of cases, services provided were not related to farmers and other agri-food value chain actors, but services devoted to local communities such as, for example, the transport of people. However medium to large scale, group, itinerant, NGO and public sector AMHSEs provided, in the majority of cases, services for farmers and agri-food value chains actors. Interestingly though, for all sizes of AMHSEs and type of ownership modes found, provided for connotations of social and community-based types of enterprise to a greater and lesser degree (Hilmi, 2021a).

Social marketing

An AMHSE that provides services to a small-scale farmer, for example, not only reduces labour needs for farm work, but enhances farm productivity and hence contributes to increased food production

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which may result in better nutrition for local communities, but may also improve and benefit the economic standing of the farmer. Thus AMHSEs’ services enable both an individual as well as a societal benefit. Further when an AMHSE provides services that are not related to farm work, for example, such as people transport, this provides also both individual and societal benefits to the local community. Moreover introducing and promoting AMHSE services to farmers who are not using them and hence encourage and educate such farmers in the usage of such ‘new technologies’, is in fact providing for behavioural changes in farmers that will benefit them as well as society at large as per the increase in food production, for example.

Social marketing is ‘the systematic application of marketing concepts and techniques to achieve specific behavioural goals, via voluntary or involuntary behaviour of target audiences in order to improve the welfare of individuals and society’ (Donovan & Henley 2010; Eagle et al. 2013). Social marketing is basically ‘concerned with helping to achieve and maintain desirable social change’ (Donovan & Henley, 2010) based on ‘influencing behaviour change; focusing on priority audience segments; utilizing a systematic planning process that applies marketing principles and techniques; and as an outcome implementing and delivering a positive benefit for individuals and society’ (Lee & Kotler 2020). Social marketing takes a holistic approach on encouraging and influencing voluntary behaviour change and encouraging to keep such behavioural change (Eagle et al., 2013). Unlike traditional/commercial marketing, in ‘which the primary intended beneficiary is the corporate shareholder, the primary beneficiary of a social marketing programme is society’ (Lee & Kotler, 2020) as the ultimate goal is to provide benefits for individuals and society alike. The main focus of social marketing is to attempt to influence target audiences to ‘accept a new behaviour, reject a potentially undesirable behaviour, modify a current behaviour or abandon an old undesirable behaviour(Lee & Kotler, 2020). Hence, social marketing focuses on building relationships with target customers, so as to attempt to ‘earn their trust, develop better interventions and create truly supportive systems, focusing on long-term goals with no immediate expectation of success’ (Eagle et al., 2013). It points at building networks with target consumers in relational exchanges over time, but also encourages co-creation of interventions with participating target consumers and other partners’ (Eagle et al., 2013). The main characteristics of social marketing can be seen in Table 5.

Table 5: The main social marketing characteristics

<table>
<thead>
<tr>
<th>Individual and society focused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnerships</td>
</tr>
<tr>
<td>Influencing to foster behaviour change</td>
</tr>
<tr>
<td>Influencing to foster societal change</td>
</tr>
<tr>
<td>Voluntary and involuntary behaviour change</td>
</tr>
<tr>
<td>Maintenance of changed behaviour</td>
</tr>
<tr>
<td>Costs of changed behaviour as price to pay</td>
</tr>
<tr>
<td>Incentives to change behaviour</td>
</tr>
<tr>
<td>Individual and societal value and benefits</td>
</tr>
<tr>
<td>Campaigning</td>
</tr>
<tr>
<td>Proposition as a product</td>
</tr>
<tr>
<td>Co-creation of value</td>
</tr>
<tr>
<td>Exchange value</td>
</tr>
<tr>
<td>Relational</td>
</tr>
<tr>
<td>Networking</td>
</tr>
<tr>
<td>Educational</td>
</tr>
<tr>
<td>Social communications</td>
</tr>
<tr>
<td>Two way communications</td>
</tr>
<tr>
<td>Adaptive</td>
</tr>
<tr>
<td>Planning</td>
</tr>
</tbody>
</table>

Source: Based on: (Eagle et al., 2013; Lee & Kotler, 2020)

*Behaviours that benefit society do not always benefit the individual being asked to change their ways, and may not even benefit that social group, locality or generation; yet if such behaviours do not change, our future as a society is in jeopardy, hence social marketing is a promising route forward precisely because its commercial cousin has been so successful* (Eagle et al., 2013).
Marketing in rural and BOP/SM contexts

Commonly rural areas, as provided previously, have low population densities, uneven development, fragmented markets, lack of steady and sustainable consumption, diversity of occupations, heterogeneity of lifestyles, low income streams (Krishnamacharyulu & Ramakrishnan, 2011) and rural populations being scattered, are more tedious to reach as larger distances need to be travelled to furnish products and services. People in rural areas, that live and work in BOP/SM contexts, tend to be ‘traditionalists in outlook, rooted in the land, and who resist change’ (Krishnamacharyulu & Ramakrishnan, 2011). In general terms the rural consumer ‘exhibits behaviour that is different from the behaviour of consumers in urban areas’ (Velayudhan, 2007). Hence in rural areas there is a need for a different marketing approach ‘necessitated by variation in consumer behaviour and income levels and usually, but not always, involves the marketing of products (and services) produced locally’ (Velayudhan, 2007). Further the type of ‘channels available, the type of media available to promote products, the type of infrastructure in rural areas as well as the geographically spread-out nature of markets also requires different marketing approaches to serve such markets’ (Velayudhan, 2007). Dogra & Ghumand define (2008) define rural marketing as a ‘distinct specialized field of the marketing discipline that encompasses a customized application of the marketing tools and strategies to understand the psyche of the rural consumer in terms of needs, tailoring the products to meet such needs and effectively delivering them to enable a profitable exchange of goods and services to and from the rural market’. In such contexts the marketing process seeks to understand critical needs of consumers, negotiate social networks, design value propositions, co-create products and services, localize production and implementation, communicate, enable access to products and services as well as manage the adoption process of products and services (Weidner et al., 2010). Hence in terms of products and services, marketing in such contexts attempts to address affordability, availability, awareness, acceptability, assistance and adaptability. These are defined as follows:

- **Affordability** means that products and services are designed for rural markets and should be affordable and within purchasing capacity of local consumers, in other words customers’ willingness to pay a particular price for the product or service;
- **Availability** means that product and services should be easily available and should have the ability to reach and enable accessibility to local consumers as well as build trust via uninterrupted supply of products and services;
- **Awareness** means that products and services should be generated using rural-centric, below-the-line communication media and consumers know what is available and how to use it;
- **Adaptability** means that products and services can adapt to the specific needs of local consumers and their particular local contexts;
- **Assistance** means that products and services should be ‘educated’ to consumers on the value benefits that these can bring and this also focuses on building trust;
- **Acceptability** means the products and services should be designed keeping in mind the rural environment and consumer needs their acceptability to such local consumers (Kashyap 2016; Mathur et al. 2020).

The main characteristics of marketing in rural and BOP/SM contexts can be seen in Table 6.

<table>
<thead>
<tr>
<th>Relational Trust</th>
<th>Social and relational networks</th>
<th>Loyalty development focused</th>
<th>Adaptive by local context and location</th>
<th>Heterogeneity</th>
<th>Suitability</th>
<th>Innovative</th>
<th>Consumer critical needs research</th>
<th>Distribution focused</th>
<th>Consumer-entrepreneur</th>
<th>Empathy sensitive</th>
<th>Cultural sensitive</th>
</tr>
</thead>
</table>

Table 6: The main characteristics of marketing in rural and BOP/SM contexts
Societal sensitive
Traditional norms sensitive
Religious sensitive
Community sensitive
Language and dialect sensitive
Visual sensitive
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
Acceptability
Affordability
Availability
Win-Win outcome focused

**Source:** Based on (Velayudhan, 2007; Weidner et al. 2010; Mulky, 2010; Krishnamacharyulu & Ramakrishnan 2011; Viswanathan et al., 2012; Kashyap 2016; Mathur et al. 2020)

**Methodology**

The research approach taken was mainly qualitative and abductive. It took an exploratory, historical and descriptive approach. The research was based on two literature research and reviews and online key informant one-to-one in depth interviews. The first literature research and review was mainly exploratory in nature and was based on four online search engines: Google Scholar, Microsoft Academic, ResearchGate, and RefSeek. The specific research parameters (key words) used were based on a composite between common names provided for AMHSEs and specific marketing terminology. The common names used for AMHSEs were six: agricultural mechanization hire service enterprise; agricultural mechanization hire enterprise; mechanization hire service enterprise; custom hire service; hire service enterprise; and hire service. For each of these common AMHSE names, in unison, nine marketing terms were used as follows: marketing; marketing practices; promotional practices; networking; networking practices; social networking; social networking practices; relational networking; relational networking practices. Hence the composite key words for the research used were as follows: ‘agricultural mechanization hire service enterprise marketing’; ‘agricultural mechanization hire service enterprise marketing practices’; ‘agricultural mechanization hire service enterprise promotional practices’; ‘agricultural mechanization hire service enterprise networking’; ‘agricultural mechanization hire service enterprise networking practices’; ‘agricultural mechanization hire service enterprise social networking’; ‘agricultural mechanization hire service enterprise social networking practices’; ‘agricultural mechanization hire service enterprise relational networking’; and ‘agricultural mechanization hire service enterprise relational networking practices’. The same was done for all the other five remaining common names (key words) used for AMHSEs.

A total number of 27 publications were found and comprised primarily technical research reports and journal articles. The publications for review were selected on the following quality criteria: the direct as well as indirect relevance to the research subject matter; value (methodological rigour, quality of the reasoning or arguments, references, etc.); research evidence in terms of either or both primary

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8 The entire research process referred to the characteristics of purposiveness, rigor, testability, replicability, precision, confidence, objectivity, generalizability and parsimony (Sekaran & Bougie, 2016)
9 The first literature research, review and preliminary analysis of findings was conducted between August and September 2020
10 The quality criteria were based on those as provided by Fisher (2010), Adams et al., (2014) and Saunders et al., (2016)
source-based (credibility; reliability; ecological validity) and secondary source – based; location; derived from an identified and reliable source (author(s), scientific journal publisher, reputation of publisher, etc.); date of publication (not older than 60 years); references used; and peer review conducted.

Following the first exploratory research on sources of secondary data and information, nine online one-to-one key informant in-depth interviews were carried out\(^\text{11}\). The interviewees were subject matter specialists from defined areas of the world: two interviewees from Central and Latin America, two interviewees from Africa, two interviewees from the Middle East, two interviewees from Asia and one interviewee from Central Asia. Interviews were unstructured and semi-structured in nature, findings from the first exploratory research on sources of secondary data and information were also discussed and reviewed and the interviews were held in English, French and Spanish. All the interviews were recorded and transcribed using automated transcription software.

The sources of secondary data and information and the results of the key informant interviews were analysed via thematic analysis. The analysis used the theoretical framework of the different types of marketing and their characteristics as shown in Table 7\(^\text{12}\) below. The themes found in the sources of secondary data and information and interview transcripts were compared to those provided in the theoretical framework via, for example, counting the frequency and context of the appearance of certain key words or phrases. The initial 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).

Table 7: The different types of marketing and their characteristics

<table>
<thead>
<tr>
<th>Marketing</th>
<th>Digital marketing(^\text{14})</th>
<th>Services marketing(^\text{15})</th>
<th>Small and medium sized enterprise(^\text{16})</th>
<th>Social marketing(^\text{17})</th>
<th>Rural marketing in BOP/SM contexts(^\text{18})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchanges</td>
<td>Networked</td>
<td>Service as a performance</td>
<td>context specific</td>
<td>Individual and society focused</td>
<td>Relational</td>
</tr>
<tr>
<td>Market - information centred</td>
<td>Partnerships</td>
<td>Perishability of service</td>
<td>flexible</td>
<td>Partnerships</td>
<td>Trust</td>
</tr>
<tr>
<td>Market and customer segmentation</td>
<td>Affiliated</td>
<td>Non-ownership of service</td>
<td>inherent informality in structure</td>
<td>Influencing to foster behaviour change</td>
<td>Social networks</td>
</tr>
<tr>
<td>Markets and customers targeting</td>
<td>Social</td>
<td>Intangibility of service</td>
<td>restricted in scope and activity</td>
<td>Influencing to foster societal change</td>
<td>Loyalty development focused</td>
</tr>
<tr>
<td>Customer centred</td>
<td>Relational</td>
<td>Variability of service</td>
<td>simple and haphazard</td>
<td>Voluntary and involuntary behaviour change</td>
<td>Adaptive by local context and location</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>High degree of social sensitivity and influence</td>
<td>Production-consumption inseparability of service</td>
<td>product and price – oriented</td>
<td>Maintenance of changed behaviour</td>
<td>Heterogeneity</td>
</tr>
</tbody>
</table>

\(^{11}\) The interviews took place between late September and October 2020

\(^{12}\) The theoretical framework in Table 7 is composed of Tables 1 to 6 as provided previously

\(^{13}\) Characteristics based on Kotler & Armstrong 2018

\(^{14}\) Characteristics based on Chaffey & Smith 2013; Kotler et al. 2017; Charlesworth 2018; Kotler et al. 2021

\(^{15}\) Characteristics based on Hoffman & Bateson 2011; Wirtz & Lovelock 2016, 2018; Zeithaml et al. 2018; Wirtz & Lovelock 2018

\(^{16}\) Characteristics based on Carson et al., 1995; Gilmore et al., 2001; Bjerke & Hultman, 2002; Chaston & Mangles, 2002; Carson, 2003; Simpson et al., 2011; Blankson et al., 2018; Gilmore & Carson, 2018

\(^{17}\) Characteristics based on Eagle et al., 2013; Lee & Kotler, 2020

\(^{18}\) Characteristics based on Velayudhan, 2007; Weidner et al. 2010; Mulky, 2010; Krishnamacharyulu & Ramakrishnan 2011; Viswanathan et al., 2012; Kashyap 2016; Mathur et al. 2020
<table>
<thead>
<tr>
<th>Customer relations</th>
<th>Inclusive</th>
<th>Service recovery</th>
<th>owner/manage r involvement</th>
<th>Costs of changed behaviour as price to pay</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee relations</td>
<td>Dialogical</td>
<td>Market information</td>
<td>networking</td>
<td>Incentives to change behaviour</td>
<td>Innovative</td>
</tr>
<tr>
<td>Communication</td>
<td>Reputational</td>
<td>Market and customer segmentation</td>
<td>relationships with customers</td>
<td>Individual and societal value and benefits</td>
<td>Consumer critical needs research</td>
</tr>
<tr>
<td>Promotion</td>
<td>Integrated multiple media focused</td>
<td>Consumer dependent in co-creation of service</td>
<td>relationships with staff</td>
<td>Campaigning</td>
<td>Distribution focused</td>
</tr>
<tr>
<td>Strategic</td>
<td>Global and local</td>
<td>Experiential</td>
<td>competitive alliances and support</td>
<td>Proposition as a product</td>
<td>Consumer-entrepreneur</td>
</tr>
<tr>
<td>Planning</td>
<td>Content based</td>
<td>Relational</td>
<td>intuitive</td>
<td>Co-creation of value</td>
<td>Empathy sensitive</td>
</tr>
<tr>
<td>Integration</td>
<td>Visual based</td>
<td>Networked</td>
<td>opportunistic</td>
<td>Exchange value</td>
<td>Cultural sensitive</td>
</tr>
<tr>
<td>Coordination</td>
<td>Interactive</td>
<td>Partnerships</td>
<td>adaptive</td>
<td>Relational</td>
<td>Societal sensitive</td>
</tr>
<tr>
<td>Innovative</td>
<td>Proactive</td>
<td>Service process design</td>
<td>innovative</td>
<td>Networking</td>
<td>Traditional norms sensitive</td>
</tr>
<tr>
<td>Experiential</td>
<td>Dynamic</td>
<td>Service space and evidence</td>
<td>risk-taking</td>
<td>Educational</td>
<td>Religious sensitive</td>
</tr>
<tr>
<td>Value creation</td>
<td>Agile</td>
<td>Communication and education</td>
<td>change-oriented</td>
<td>Social communications</td>
<td>Community sensitive</td>
</tr>
<tr>
<td>Co-creation of value with customer</td>
<td>Highly customer centric</td>
<td>Employees role in services</td>
<td>customer – focused relationships</td>
<td>Two way communications</td>
<td>Language and dialect sensitive</td>
</tr>
<tr>
<td>Partnering</td>
<td>Personalized</td>
<td>Managing demand and supply capacity</td>
<td>morality</td>
<td>Adaptive</td>
<td>Visual sensitive</td>
</tr>
<tr>
<td>Networking</td>
<td>Customized</td>
<td>Planning</td>
<td>religiosity</td>
<td>Planning</td>
<td>Oral sensitive</td>
</tr>
<tr>
<td>Natural environment sensitive</td>
<td>Online and offline interactivity</td>
<td>Service distribution</td>
<td>resource constrained</td>
<td>Information and communication technology focused</td>
<td></td>
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<tr>
<td>Societal sensitive</td>
<td>Internet of Things focused</td>
<td>Artificial intelligence focused</td>
<td>Communication for awareness development</td>
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<tr>
<td></td>
<td>Virtual and augmented reality focused</td>
<td>Two-way communication and interactivity</td>
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<tr>
<td></td>
<td>Automated</td>
<td>Partnerships with customers, NGOs, Public sector</td>
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<tr>
<td>Predictive orientation</td>
<td>Needs value based</td>
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<tr>
<td>Promotional</td>
<td>Aspirational value based</td>
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<tr>
<td>Viral</td>
<td>Social interdependence for consumption</td>
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<tr>
<td>Consumers as marketers (reverse marketing)</td>
<td>Co-creation of value</td>
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<tr>
<td>Data driven</td>
<td>High level of customization</td>
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<tr>
<td>Highly analytical</td>
<td>Acceptability</td>
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<tr>
<td>Highly strategic</td>
<td>Affordability</td>
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<tr>
<td>Highly tactical</td>
<td>Availability</td>
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<tr>
<td>Process focused</td>
<td>Win-Win outcome focused</td>
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<tr>
<td>Planned</td>
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<td>Highly operational</td>
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<tr>
<td>Programmatic</td>
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<td>Active monitoring</td>
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<td>Active evaluation</td>
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<td>Return on marketing</td>
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<tr>
<td>investment oriented</td>
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</table>

- The findings from this first exploratory research and key informant interviews, guided a second and far more in-depth literature research and review\(^{19}\) that was exploratory, historical and descriptive. The second research was based on seven online search engines: BASE, CORE, Google Scholar, JSTOR, Microsoft Academic, Refseek and ResearchGate. The specific research parameters (key words) used were based on a composite between common names provided for AMHSEs and marketing terminology. The common names used for AMHSEs were 21: agricultural mechanization hire service enterprise; agricultural mechanization hire enterprise; mechanization hire service enterprise; hire service enterprise; hire service; machinery hire service; machinery hire service center; custom hire service enterprise; custom hire service; custom hiring farm machinery; custom hire; farm equipment service; tractor hire service; tractor service; draught animal hire service;draught animal service; cooperative hire service; agricultural equipment hire service enterprise; mechanization service provider; tillage service provider; farm hire service. For each of these common AMHSE names nine marketing terms were used as follows: marketing; marketing practices; promotional practices; networking; networking practices; social networking; social networking practices; relational networking; relational networking practices. Hence the composite key words for the research used were as follows: ‘agricultural mechanization hire service enterprise marketing’ was used, this was followed by ‘agricultural mechanization hire service enterprise marketing practices’; ‘agricultural mechanization hire service enterprise promotional practices’; ‘agricultural mechanization hire service enterprise networking’; ‘agricultural mechanization hire service enterprise networking practices’; ‘agricultural mechanization hire service enterprise social networking’; ‘agricultural mechanization hire service enterprise social networking practices’; ‘agricultural mechanization hire service enterprise relational networking’; and ‘agricultural mechanization hire service enterprise relational networking practices’. The same was done for all the other 20 remaining common names (key words) used for AMHSEs.

A total number of 43 publications were found and comprised primarily journal articles and technical research reports. The publications for review were selected on the following quality criteria\(^{20}\): the direct as well as indirect relevance to the research subject matter; 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; location; derived from an identified and reliable source (author(s), scientific journal publisher,

\(^{19}\) The second literature research, review and analysis was conducted between November 2020 and January 2021

\(^{20}\) The quality criteria were based on those as provided by Fisher (2010), Adams et al., (2014) and Saunders et al., (2016).
reputation of publisher, etc.); date of publication (not older than 60 years); references used; and peer review conducted.

The sources of secondary data and information were analysed via thematic analysis. This used the theoretical framework of the different types of marketing and their characteristics as shown in Table 7. The themes found in the sources of secondary data and information were compared to those provided in the theoretical framework via, for example, counting the frequency and context of the appearance of certain key words or phrases. 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 nine subject matter specialist interviewees. Each review provided was followed-up by a one-to-one online meeting with all of the nine key informant subject matter specialists21. The feedback provided on the draft results of the research were compared and then triangulated. This provided for a further layer of validation of the research results.

Findings
Findings from sources of secondary data and information
In terms of sources of data and information directly regarding marketing practices of AMHSEs were scant at best. The majority, if not all of the sources of secondary data and information, did not refer to marketing directly as a ‘key theme’, but indirectly using such terms, for example, as ‘farmers’ demand’, ‘willingness to pay’, ‘hiring rates’, ‘brokers’, ‘networks’, ‘social networks’, ‘promoting’, etc. For example Belton et al. (2018) in Myanmar and Takeshima et al., (2020) in Vietnam, provide for farmer to farmer type selling of AMHSE’s services, i.e. networking. However, as per the analysis of findings, four main marketing practices did emerge from the analysis of secondary sources of data and information. These were: booking services for AMHSEs; pricing of services; distribution and promotion of services; and networking for selling services.

Booking services for AMHSEs
The main marketing services for AMHSEs found were in the form of ‘brokerage’ services or what may be termed ‘booking services’. For example, within a farming community a person may ascertain the demand for services and then inform AMHSEs of what services are required. He or she for such booking services will usually ask for a commission. In some instances, it was found that booking agents actually hired animals, machines and tools from AMHSEs and provided the demanded services themselves. Also what was found were associations of tractor AMHSEs providing for booking services themselves. Such ‘booking services’ facilitate the selling of services by matching demand for AMHSEs’ services with the supply of AMHSEs’ services in local areas as well as in wider geographical areas. Such booking services occur mainly by a booking agent going to search for services demanded by farmers, for example or business enterprises that provide online booking services such as, for example, applications on mobile phones and websites, or such business enterprises may provide for both online and offline booking services in collaboration with local booking agents.

In Nigeria, Issa (2017), provides that ‘the booking agent finds farmers who need tractor-hiring services, and link such farmers with the tractor owner who provides the services and deducts an agreed 10 percent commission from the fee paid by farmers. Alternatively the booking agent hires the machine from the owner for a specified fee and provides services to farmers who pay him’. Issa (2017) also provides that ‘associations of AMHSEs operate as booking agents in order to ensure continuous business operation, by providing hiring services to big corporate farms by deploying tractors of associations’ members to work on such farms, thereby acting as booking agent (i.e. gets commission on each tractor working on such farm according to laid down rules).’ In Myanmar, Belton et al. (2018) provide in terms of booking services three main models: (1) organized by outsourcing service providers seeking customers; (2) self-organized by farmers seeking service providers; (3) organized by brokers acting as intermediaries between customers and service providers’. Zhang et al., (2015) in

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21 The reviews of the draft findings and the follow-up one to one online meetings were conducted in February and early March 2021.
China, provide that itinerant AMHSEs hire a scout with a motorcycle to search for new harvesting orders, while operators focus on harvesting. Still in China, Zhang et al., (2020) provide that networks are activated via intermediaries in villages, who ‘play a key role in linking farmers and the operators of combine harvesters. The intermediaries are more knowledgeable about local demand than the service providers from outside. They normally charge a 10 percent commission fee out of the total service charges’.

In terms of online booking services, Bagaitkar et al., (2019), in India, provide for a tractor hire application for mobile phones to book services and supply services. Daum et al., (2020) in Nigeria, consider digital brokers, for example Hello Tractor. For example in using Hello Tractor ‘the service can be requested via a smartphone application, but most farmers rely on the help of a booking agent because few Nigerian smallholder farmers own mobile phones’ (Daum et al., 2020). However Hello Tractor has established ‘a network of booking agents, a model that is also used by some traditional service providers. These agents create awareness about tractor availability and pool the demand from several smallholder farmers in a particular geographical area for a 10 percent commission’ (Daum et al., 2020). Online booking services, as found, also exist, for example, in India, EM3 Agri-Services Pvt. Ltd, in Ghana, TROTRO Tractor Limited and in Zambia, Rent to Own. In India, as provided by NABARD (2018) ‘uberization is feasible in agricultural mechanization: hence networking of individual owners and AMHSE service centres can happen by onboarding a common platform and meeting the demand in real time’.

**Pricing AMHSEs’ services**

Pricing of AMHSEs’ services is referred to in the sources of secondary data and information as hiring rates and/or hiring costs. Some sources of secondary data and information were devoted to describing pricing done directly by AMHSEs, for example, see Bymolt & Zaal (2015); Berhane et al., (2020); Crab & Thepent (2020); Abeyratne & Takeshima (2020). However a good deal of literature considered looking at what may be ‘optimal’ pricing for AMHSEs’ services, for example, see Rahman et al., (2013); Houssou et al., (2015); Man et al., (2016); CIMMYT (2016); and Kinga & Chetem (2019).

In Myanmar, CAPSA-ESCAP (2017) provide that hiring rates for public sector AMHSEs are determined for the whole country by considering the following factors: ‘prevailing rates of the private sector, government budget, engine oil, lubrication oil, fuel (e.g. diesel) consumption for each operation, maintenance cost and value of machines (purchase cost, depreciation, interest rates, etc.)’. In terms of the private sector rates, these were simply defined ‘through comparison with the neighbouring village’s hiring rates, price of diesel and maintenance charges’ (CAPSA-ESCAP, 2017). Diao et al., (2018) provide that in Ghana, ‘occasionally, relatives and close friends of tractor owners ask for services at discount prices, for example, just to cover the fuel cost, especially for the owners who own only one tractor’. In one case reported, a hirer provided that ‘this was one of the reasons he stopped providing services to anyone’ (Diao et al., 2018). Hilmi (2018) found, for example in Kenya and Tanzania, similar aspects, in that AMHSEs did not want to operate as they were seen as better off in a local community and hence had to look after others. Kakwaba & van Leeuwen (1999) provide that in Zambia for ox owners providing services that hiring for cash was more important than hiring for barter (fertiliser, labour or maize), but borrowing through sharing was most common. In Ghana, Kansanga (2017) provides that ‘an agreement on the price is reached on the farm depending on the nature and size of the land. For previously ploughed farms that have never undergone demarcation, measurement is not necessary before negotiation’. However, due to the strong ‘social organization at the extended family level in Ghana, it is a common practice for a tractor owner to plough the farms of immediate family members, usually at a reduced rate or no fee, but the favour is often a credit slip that is reciprocated in other ways later’ (Kansanga, 2017). In Bhutan, Kinga & Chetem (2019) provide that ‘at present the hiring of farm machineries in Bhutan is not on a commercial scale and the informal hiring practiced is purely based on the convenience of the machine owners and as such also the rate for the hiring is based on the farmers practice and not at all calculated to accept as a realistic hiring rate’.

**Distribution and promotion of services**

Diao et al., (2016) report on the use of hiring centres for distribution of services across geographical areas and the use of extension staff for demonstrations (promotion). CAPSA-ESCAP
serve members in th

but also former ‘public AMHSEs cooperatives, now privatized, use the same networking system to

Vietnam, Takeshima

More often than not AMHSEs directly contact known

however, after a few times of providing satisfactory services, their reliance on interme

rely on farmer networks to provide services.

(2020) provide that ‘the role of formal knowledge-sharing mechanisms was limited, and farmers depended on informal channels to a great extent. The reason for this was that AMHSEs were too small to consider any formal channel of information sharing’. Moreover ‘the AMD has offered custom hiring services for approximately 50 years through the agriculture mechanization camps throughout the country (CAPSA-ESCAP, 2017) providing for the distribution of services’. Still CAPSA-ESCAP (2017) provide that in Myanmar, AMHSEs work only in their own specific locations and most of them are local people. Still in Myanmar, Belton et al. (2018) report that for the ‘distribution of services, transport services are used to deliver the services to the point of use’. In India, NABARD (2018), provides that custom hiring centres in villages distribute and promote mechanization technologies and their hire and create awareness as well as better understanding. Still NABARD (2018) in India provides that custom hiring centres in villages are distributing services ‘with physical institutions seen as ‘hubs’ around the country’.

Networking for selling AMHSEs’ services

Diao & Takeshima (2020) provide that in Ghana farmer to farmer networks are used for selling AMHSEs’ services. Still in Ghana, Diao et al., (2018) provide that AMHSEs migrate between geographical areas and use reliable (social and relational) networks in the geographical areas to sell services. In this regard, AMHSEs ‘mainly depend on phone calls or text messages received directly from customers. Further there is no formal mechanism or network for small farmers to get access to tractor services as farmers typically call their known service providers (in most cases their operators) individually to ask for services from nearby towns. Others receive contact information from other farmers who hired-in services previously, while many simply approach the tractor’s operator when they see a tractor operating in their neighbours’ farms or traveling on the road’ (Diao et al., 2018). Further and still in Ghana, Kansanga (2017) provides that farmers ‘who require the services of a tractor register their intent with the owner who later communicates a day for the ploughing to the farmer’. However during peak season, the system of first come first served is only theoretical as tractor owners ‘tend to give priority to smallholder farmers they share special ties with such as friends and relatives and hence as a result, farmers are left with the only option of activating and relying on such networks and relationships to get timely access despite the ability and willingness to pay’ (Kansanga, 2017). Moreover, ‘farmers who lacked such social ties also adopted the strategy of locating their farms in close proximity to other farmers who had ready access to tractors in order to increase their chances of getting timely services’ (Kansanga, 2017). Moreover and still in Ghana, Houssou et al., (2015) provides that AMHSEs sell services on a farmer to farmer network basis.

Belton et al. (2018) in Myanmar, provide that selling services is provided on ‘pre-existing social farmer to farmer networks’. Magnan et al., (2014) in India provide that ‘social networks are used by farmers in their local areas for information sharing about technologies and related services and that social networks were very limited in terms of reach’. For example ‘while farmers had strong networks within their own village, they had very limited connections with farmers in similar villages only 5 kilometres away’ (Magnan et al., 2014). Still in India, Mueller et al., (2002) provides that prevalently ‘farmer clients searched for suppliers of bullock services’. Further and still in India, Bhattacharai et al., (2020) provide that ‘tractor owners hire out their tractors to fellow farmers and others in their villages for both farm and nonfarm uses and there is an increasing trend toward using smartphone and web-based technologies to coordinate the demand from the large number of farmers in rural areas with the rental services available to them’. In Zambia, Kakwaba & van Leeuwen (1999) provide that ox owners rely on farmer networks to provide services.

In China, Zhang et al., (2020) provide that networks are activated ‘via intermediaries in villages, however, after a few times of providing satisfactory services, their reliance on intermediaries weakens. More often than not AMHSEs directly contact known farmers to schedule harvesting service’. In Vietnam, Takeshima et al., (2020), provide that AMHSEs prevalently use farmer to farmer networks, but also former ‘public AMHSE cooperatives, now privatized, use the same networking system to serve members in their commune’. In Bangladesh, Ahmed & Takeshima (2020), provide that most
commonly farmer to farmer networks are used for using AMHSEs’ services. In Nepal, Takeshima & Justice (2020), provide that AMHSEs use farmer to farmer networks to sell services. In Kenya, De Groote et al., (2020) for animal traction service provision found the farmer to farmer network is used for selling services. In Nigeria, Takeshima & Lawal (2020) provide that AMHSEs’ services sell via friends, neighbours, or relatives, while Issa (2017), still in Nigeria, provides that it is AMHSEs that directly seek out farmers in need of services.

Paman & Wahyudy (2018) provide that in Indonesia farmers provide hiring services for other farmers, commonly neighbour farmers. Vernet et al., (2020) in Cambodia provide that AMHSEs have networks of customers and increase sales of services using such networks. In Bhutan, Kinga & Chetem (2019) provide that ‘at present the hiring of farm machineries in Bhutan is not on a commercial scale and the informal hiring practiced is purely based on the convenience of the machine owners on a farmer to farmer network basis’. Diao et al (2016) provide that in Ghana, Tunisia, Thailand, Indonesia, Vietnam, India, Bangladesh, Nepal and China, the main pattern is farmer to farmer service provision. Shetto et al., (2000), for Africa in general, provides that animal traction contracting services are fairly common in rural communities in the region and are provided on farmer to farmer network basis.

Findings from the key informant interviews

The results from the analysis of the key informant interviews prominently provided that marketing practices of AMHSEs had not been researched in any great depth and there was a general lack of information and knowledge on the subject matter. However, as per the analysis of findings from the key informant interviews, six main marketing practices emerged, these were: social and relational networks for selling services; distributing and promoting services; partnering; booking services; contracting; and pricing.

Social and relational networking for selling services

The most frequently provided marketing practice mentioned was that of selling services based on social and relational networks on a farmer to farmer basis and prevalently in informal settings. These networks provided for ascertaining farmers’ and other value chain actors; demand for services, distribution of services, promotion of services, pricing of services as well as partnering. Networking was provided to be the main thrust of marketing practice, especially in rural and remote areas. Such networking for selling services, for example, usually, but not always was embedded in other social and relational networks in local communities not related to the AMHSEs’ services, for example extended family ties, tribal ties, community social capital and community and religious norms.

Distributing and promoting services

In many countries, the public sector provides for hiring centres/camps around countries, located in prevalently high agricultural producing areas and these provide for the marketing of such services, via, for example, promoting services and educating farmers, using extension staff. The distribution of services around the countries were provided by the physical centres/camps. Mostly services were provided via the service centres approaching farmers via local extension staff. However service centres were also approached by farmers and others seeking services, and services in most instances were booked and provided based on social and relational factors.

Further the public sector still played a role, indirectly, in for example subsidizing tractor prices, that enabled AMHSEs on a micro and small-scale to be set up. So as to cover better utilization rates to justify the investment, AMHSEs, once completed work on their own farms, for example, would hire out services. Such hiring out, was done mainly informally, with spot price negotiations for services, sold on a farmer to farmer network basis and services distributed prevalently within the local area. Medium to large-scale farms that were also AMHSEs tended to use the same mechanisms of the micro and small sized AMHSEs to market services. However such medium to large scale AMHSEs tended to have a larger reach in terms of disturbing services within a geographical area, as it was reported, some could provide transport services for machinery and hence reach more customers further afield.

Partnering

Partnering as a marketing practice was also reported in AMHSEs’ marketing of services. Partnering was provided in various ways. Partnering could occur between micro-and small-sized
enterprises which would come together and sell their services together so as to be able to offer more services and at the same time to farmers and other agri-food value chain actors, for example. Typically, for example in planting and harvesting season demand for services increases and many farmers want services all at the same time. Hence by having more services to offer by AMHSEs working together enabled to satisfy such demand. It was also reported, that in some instances, such partnering was also done so that services could be provided to a larger area, in other words, services had a greater reach geographically and not just limited to a local area.

Partnering was also provided in terms of public AMHSEs as well as private AMHSEs coming together. This enabled, for example, marketing services more effectively and with a far wider distribution as well as better promotion of such services. This was done, for example via service centres/camp around a country. Further in other instances, for example, the public sector would support the private sector directly, by providing funding and other support, like extension staff, to private AMHSEs to set up service centres and camps.

Partnering was also reported to occur indirectly between the public and private AMHSEs. Typically public AMHSEs service centres/camps would promote services via their extension staff. This would facilitate a better understanding about services, for example with farmers in a local area. This facilitation would indirectly support and help private AMHSEs sell their services as farmers in a local area would have been educated by public AMHSEs’ services centres/camps. Another form of partnering for marketing of services was provided with individuals and/or organizations that offered booking services, either in person and/or online.

**Booking services**

Booking services (booking agents and services) were also reported as being another marketing practice. At the local level, these consisted mainly of brokers who ascertained for defined areas the demand and supply of services and for a fee would facilitate services to occur. This facilitation was done mainly via social and relational networks in the local area. However and interestingly such facilitation systems, in most cases, were not ‘overtaken’ over time by AMHSEs and farmers agreeing on their own for the next seasons’ services, hence excluding the booking agent. This was attributed to social norms, especially in rural and remote areas. In terms of medium to large-scale AMHSEs, facilitation services were used in terms of an agent, but this as per the past decade or so, has been changing as per the advent and increase of online facilitation services. This, as reported, of the increase in availability and accessibility of online facilitation services, has also enabled micro and small-sized AMHSEs to use such services, however with the assistance, in the first phases of using such services of booking agents themselves.

**Contracting**

Interestingly another marketing practice to emerge was that of contracting, both formally and informally. This however, was prevalent in the majority of cases to large-sized AMHSEs. For example tenders were set for services by large commercial farms, such as for example soya harvesting, and AMHSEs would provide bids for obtaining service provision for harvesting. This was commonly provided at the start of the season and hence was a type of ‘forward contracting and pricing’ and tended to be formally set out in written contracts. At the micro and small-sized AMHSEs level, contracts were reported to be used, but these were commonly verbal and in the form of promises for the next season of services tasks to be carried out.

**Pricing**

In terms on how AMHSEs price services, as reported, the public as well as medium to large-scale AMHSEs tended to calculate costs with detail. The public sector AMHSEs’ services would commonly tend to charge prices so as to cover costs, while the medium to large-scale AMHSEs would set a simple ‘mark-up’ price for profit earning. However for micro and small-sized AMHSEs cost calculations for pricing were far from prevalent and mostly calculated on ‘going rates’ in the area as well as on fuel costs.

Payments for services, as reported, in terms of micro and small-sized AMHSEs was done most prevalently based on social and relational agreements. For example, most often services were paid for via crops, livestock, livestock products, presents and return of favour. However this did not exclude at
all monetary exchanges, but these were reported to be far less, especially in rural and remote areas. In terms of medium and large scale AMHSEs this was done most prevalently in monetary terms. In terms of public sector AMHSEs and payment for these, this was prevalently done via cash payment or via credit arrangements, for example payment would be provided for after harvest had been sold. In some cases it was reported that credit for services was based on family or tribal or political affiliation or a mixture of these factors.

Influences on AMHSEs as a business

In the interviews what also emerged, interestingly, was what were the influences on AMHSEs’ operating as business enterprises and thus could also possibly be related, directly and indirectly, to AMHSEs’ marketing practices. These influences were provided as being: the agroecological conditions of a local area; seasonality; farming systems and in specific the crops and cropping patterns and their intensification as well as type of livestock composition and production patterns; market demand for crops and livestock; growth of export markets and import markets; farm size; land tenure arrangements; infrastructure (roads, electrification, communications); fuel, spare parts, repair and maintenance services; growth and increased expansion of agricultural and food technologies; complementary technologies; demographics especially in rural areas; rural labour supply, and in specific agricultural labour supply; raising rural wages; growth of urban centres large and small and their locations and distances in-between; the services which could be offered; distance of AMHSEs to customers; spatial variations in demand; the sequencing of mechanization service demand, i.e. the demand for hand tool, animal and mortised mechanization services, usually, but not always, emerges sequentially based on the different functions being mechanized, the different types of mechanization technology in need and in demand different categories of farmers, as usually power intensive functions such as for example, ploughing, threshing, milling and transport, are the first to be mechanized while control intensive functions, such as weeding and winnowing, are typically only mechanized when labour wage rates have risen; growth of other sectors, for example real estate, transport, communications; government policies in support of agricultural technologies; extension services and technology demonstrations; cultural and social factors; domestic and foreign machinery manufacturing; increase and expansion of availability of veterinary doctors and medications and know how; religion.

Discussion

The findings, and analysis of these, provide for seven AMHSEs’ marketing practices: networking for selling; ascertaining farmers’ and other agri-food value chain actors’ demand; booking services; contracting; pricing of services; distribution and promotion of services; and partnering. The most prominent practice found was networking, commonly social and relational in nature. However within these social and relational networks, AMHSEs would also ascertain demand for services, pricing of services, distribution and promotion of services, partnering as well as contracting. Another prominent marketing practice that was found was that of booking services provided by brokers, both physical and online (digital) for AMHSEs. This was also in line with another marketing practice of AMHSEs, that of partnering. In fact and still in this regard of partnering, public AMHSEs also provided for facilitation, promotion and education in terms of services. Hence the public sector also played a role indirectly with the hire centres/camps located, for example around a country, that provided for promotion and education of farmers for services and hence indirectly and as a ‘spill over’ effect were also promoting and educating AMHSEs’ services for privately-owned AMHSEs. Pricing of AMHSEs services was also another marketing practice found, even though, and as reported in most cases, setting prices, apart from the public sector and medium to large-sized AMHSEs, was provided simply based on ‘going rates’ and the cost of fuel.

Ascertaining farmer and other agri-food value chain actors’ demand for services was also found, but this was less prominent as a marketing practice, as commonly this was amalgamated within the social and relational network of selling AMHSEs for micro and small sized AMHSEs. For example micro and small-sized AMHSEs usually provide services within a limited reach in a local farming area and hence over time come to know very well the needs and demands of local farmers and other agri-food value chain actors. However, ascertaining farmers’ and other agri-food value chain actors’ demand, for example in the case of itinerant AMHSEs was more prominent. This derived, for example, from the need that itinerant AMHSEs may travel to locations where demand for services is not well
known and hence such demand needs to be ascertained prior to travel taking place. Consequently and as provided by a case above, using a broker with a motorcycle to ascertain demand for services in more distance locations was provided for. To a degree, this can be seen as ‘outsourcing’ to a broker to research demand for selling services. Further another marketing practice found was that of partnering directly and indirectly, as provided previously. Partnering, for example by AMHSEs directly with booking agents enabled the selling of AMHSEs’ services. In terms of partnering with the public sector AMHSEs, this happens directly in a public-private parentship or indirectly with the presence of, for example public hire centres/camps that promote and educate farmers on services and thus also benefit services of private AMHSEs. Competition between services sold by public and private AMHSEs is obviously there, but was not reported prevalently either in the sources of secondary data and information or in the key informant interviews. Hence it may be inferred that competition between the public and private AMHSEs is present, but not prevalent and seemingly could be interpreted as ‘peaceful coexistence and collaboration’, directly and indirectly.

Interestingly it was also found that in some sources of secondary data and information, in particular in terms of training manuals, devoted to facilitating AMHSEs as a business, marketing themes treated within were also sparse. For example CIMMYT (2016) provides marketing themes related to understanding competition, setting hire service prices, and developing demand (promotion). Further and still in a training manual, FAO (2018) also provides for marketing themes devoted to local market assessment, price setting for services, and relations with customers. However, one training manual provided by CAPSA-ESCAP (2016) on business management for AMHSEs, did provide for an interesting and holistic process approach, a systems approach to marketing services, that considers social, economic and technical aspects, and the commercialization process involved as a subprocess of activities wherein each stage accepts an input from the previous stage and adds value to the input to create a valued output.

Conclusions

From the research, seven marketing practices were found: networking for selling; ascertaining farmers’ and other agri-food value chain actors’ demand; booking services; contracting; pricing of services; distribution and promotion of services; and partnering. The most prominent marketing practice found was networking for selling. Within this networking, primarily social and relational, AMHSEs commonly ascertain farmers’ and other agri-food value chain actors’ demand for services, pricing of services, distribution and promotion of services, partnering and contracting. Another prominent marketing practice found was that of partnering in terms of marketing services provided by booking services and by public AMHSEs. In the case of public AMHSEs, partnering could be direct, via public and private partnerships, but could also be indirect, where the promoting and education of farmers and other agri-food value chain actors with regard to services was carried out via public physical service centres/camps and also benefited private AMHSEs service provision. This provides that public AMHSEs’ marketing practices do play a role in also effectively supporting the marketing practices of private-led AMHSEs.

The seven AMHSEs’ marketing practices found in the research did traverse the different types of marketing in terms of services, digital, social and rural as well as in differing marketing typologies for different sizes of AMHSEs. For example the marketing practice of networking can be found in all of the different marketing typologies as per the theoretical framework provided in Table 7. This provides, to some degree, that the conceptual framework provided in Table 7, has a degree of validity.

Overall though, in terms of the AMHSEs’ marketing practices found, these were very few. This could be attributable to the lack of research conducted previously on the subject matter i.e. focused directly on AMHSEs’ marketing practices. It could also be attributable to the reality on the ground that AMHSEs’ marketing practices are few as marketing is not a main component of such business enterprise practices. Further what emerged from the key informant interviews were the influences on AMHSEs operating as business enterprises, that could also seemingly be related, directly and indirectly, to AMHSEs’ marketing practices. However, these aspects, along with this current research, provide that clearly there is ‘space’ for much further and needed research to be conducted on AMHSEs’ marketing practices.
References


Belton, B., P. Fang, and T. Reardon, 2018. *Mechanization outsourcing services in Myanmar’s dry zones*, Michigan State University and IFPRI.


CAPSA-ESCAP. 2017. *Stakeholder Mapping for Custom Hiring of Agricultural Machines in the Dry Zone of Myanmar*, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)


CIMMYT, 2016. *Business management for small-scale mechanization: A training programme for hire service providers*, International maize and wheat improvement centre


FAO, 2019. Digital technologies in agriculture and rural areas – Status report, Rome

FAO, 2018. Hire services as a business enterprise: A training manual for small-scale mechanization service providers, Rome


FAO, 2017b. Inclusive rural communication services: Building evidence, informing policy, Rome

FAO, 2016. Tailoring rural advisory services for family farms, Rome

FAO, 2012. Hire services by farmers for farmers, Rome

FAO, 2009. Rural transport and traction enterprises for improved livelihoods, Rome

Gilbert, F., 2018. A guide to sharing farm equipment, Sustainable Agriculture Research and Education


Hilmi, M., 2021a. What type of enterprise is an agricultural mechanization hire service enterprise? A review from 19 countries, Middle East Journal of Agriculture Research,

Hilmi, M., 2021b. Entrepreneurship in farming: small-scale farming and agricultural mechanization hire service enterprises in Iraq, Middle East Journal of Agriculture Research, 10(1): 10-52

Hilmi, M., 2020. Street food vendors’ entrepreneurial marketing characteristics and practices from


Hilmi, M., 2013. Hire services as a business: The potential for developing business enterprises with tractors, machinery and draught animals, Agriculture for Development, 19, pp. 21–25


Kotler, P., H. Kartajaya, and I. Setiawan, 2017. Marketing 4.0: Moving from traditional to digital, Wiley, Hoboken, NJ, USA


MacMillan, I.C. and J.D. Thompson, 2013. The social entrepreneur’s playbook, Wharton, Philadelphia, PA, USA

Magnan, N., D.J. Spielman, T.J. Lybbert, and K. Gulati, 2014. Social Networks and Indian Farmers’ Demand for Agricultural Custom Hire Services, CSISA


Mulky, A.G., 2010. Marketing to the bottom of the pyramid and subsistence markets: A research agenda, ACTA, 2: 9-14
NABARD, 2018. *Farm mechanization*, Farm Sector Policy Department NABARD Head Office, Mumbai


Rowles, D., 2017. *Mobile Marketing: How mobile technology is revolutionizing marketing, communications and advertising*, KoganPage,

RIU, 2011. *Farm mechanisation toolkit: Guideline to bundling of demands and supply of mechanised services*, RIU Tanzania


Trace, S., 2015. *Rethink, Retool, Reboot: Technology as if people and planet mattered*, Practical Action publishing, Rugby, UK


Zhang, X., J. Yang, and T. Reardon, 2015. Mechanization outsourcing clusters and division of labour in China, IFPRI.