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Integral Development and Marketing of Mobile Phone Products and Services for Enhancing Livelihoods in Rural Zimbabwe

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Abstract:

Mobile phones enhance livelihoods and wellbeing of users by facilitating information sharing, business transactions, social and financial inclusion. Mobility assists people greatly, especially in times of emergencies. This research sought to identify key factors that could accelerate the adoption of mobile phones in rural communities. Using cooperative inquiry as a qualitative methodology, data was gathered in two rural districts during monthly group discussions. Data was collected over a period of 6 months using voice and video recordings, pictures and text. Content analysis was used to analyse the data. Since research was qualitative using conveniently selected subjects, there are limitations in generalizability. Research findings showed that company values are critical for serving rural customers effectively. When mobile operators apply humane values of caring, sharing, inclusivity and togetherness they are capacitated to develop and operate reliable mobile phone systems, produce products that are useful and affordable thereby enhancing adoption. In addition, humane values enable mobile operators to genuinely share product knowledge and to care for customers. To improve rural livelihoods, the best contribution of mobile phones is supporting farming by sharing appropriate knowledge in a timely manner, and supplying accurate information on input costs and selling prices. Furthermore, mobile phones should facilitate financial transactions and provide affordable communication services to the farming ecosystem. The research recommends that, among other things, mobile operators should review and realign their business values as a starting point for effective service delivery to rural communities. Possible areas for further research were recommended.

Keywords: cooperative inquiry, humane values, knowledge, livelihoods, mobile phones

1. Introduction

The mobile phone has proved to be the most effective emancipatory tool, especially among people living in rural areas of developing countries. Many people who had spent a greater part of their life without touching phones are now capacitated to conduct financial transactions, access health and farming information, and communicate with distant friends and relatives using mobile phones. The underdeveloped and marginalized citizens are now able to participate in the ecosystem of social media, modern entertainment and leisure. World Economic Forum (2015) suggests that technology is a powerful force for promoting economic growth, creating opportunities for individuals, firms and nations and enhancing lives. The mobile phone has become the platform of choice to deliver modern convenient services.

The popularity of mobile phones comes from their ability to deliver voice, video, short messages services (SMS) and value added services, anywhere and anytime as long as there is phone coverage. Mobile phone technology has undoubtedly facilitated efficient market operations through rapid transmission of business and social information as well as reducing transaction costs. GSM(2016:2) states that mobile technology and services generated 6.7%(\$150 billion) of Africa's Gross Domestic Product(GDP) and created 3.8 million jobs in 2015. Some of the jobs created by the advent of mobile phones include selling airtime and handsets, repair of phones, design of applications and content. Deloitte (2012:2) concurs that mobile phones improve communication, social inclusion, economic activity and production in all sectors of the economy leading to improvement of livelihoods and people's wellbeing. Mobile internet, for example, makes faster, cheaper and more convenient transactions as well as catalyses new innovations of products and services (Xing, 2017). The new products accelerate economic activities leading to improved lives and societies.

Mobile phones help people living with disabilities to be productive and fulfilled through text, voice, and video communication (World Bank Group, 2016). Income generating activities are enhanced as people access the right information and support at the right time. Mobile money services, such as Mpesa of Safaricom in Kenya and Ecocash of Econet in Zimbabwe, have been found to increase transaction efficiencies, improve accessibility, availability and security of savings and borrowings thereby enhancing financial inclusion. Umar(2006) emphasizes that mobile phones reduce transport costs, give access to business and personal information leading

to improved decision making process for improved economic and social development. By delivering real time weather forecasts, information on farming inputs and selling prices of produce, mobile phones enhance production, productivity, quality and revenues to farmers (Rizwan, 2014). More revenues and profits capacitate the farmers to procure better farming inputs, resulting in better yields and incomes. Biggs, Garrity, LaSalle and Polomska (2015:32)state that, through the Internet of Things (IOT), mobile phones can expand and secure farming production as well as increase efficiency in the distribution of food.

Despite the flowery stories of mobile phone success, there are still a lot of people who do not own or use mobile phones. Reports by the telecommunication regulatory authorities in Zimbabwe and sub-Saharan Africa confirm that thousands of households in rural areas still have no access to basic telecommunications services. The favourable statistics of mobile phone usage or mobile penetration rates are always masked by multiple owners of mobile lines. Also, most people use mobile phones for voice and SMS only hence the need for catalyzation into higher order transformative engagements of mobile money, mobile farming, mobile health, mobile insurance, and other internet based use cases. World Bank Group (2016:8) concurs that majority of the people who are poor may own mobile phones but they are not able to access or afford the internet which is critical for life improvement. International Telecommunications Union(2016) also reiterates that economic growth and development is hindered when people fail to harness new technologies that can benefit them. There is great need to use mobile technology as an enabler of development.

In view of the above, a research was undertaken to establish factors that could accelerate mobile phone adoption by rural people especially those with low incomes for the enhancement of their livelihoods. The burning question was how can mobile operators develop and market products that rural people can easily acquire and utilize. Answering the question could result in the right products at the right price being produced which could be easily adopted leading to higher living standards.

2. Research Methodology

This study used qualitative research methodology, namely the cooperative inquiry(CI). This is an action based research methodology that Heron (1996) describes as a participative, experiential, emancipatory action-oriented approach for the development of practical knowledge undertaken by a community of inquirers who are co-researchers. CI alternates from informative to transformative inquiry in action reflection cycles (Lessem & Schieffer, 2010). Through CI research, participants in this study unearthed knowledge on the experiences of rural people as they acted and reflected collaboratively on an issue of common concern, that is, mobile phone adoption. This concurs with the view that CI occurs through action and reflection, theory and practice, in participation with others in pursuit of practical solutions to issues of pressing human concern (Reason & Bradbury, 2001).The aims of CIwereto bring political flourishing of research subjects through social participation with balance in autonomy, cooperation and hierarchy as well as epistemic flourishing with growing awareness in social contexts (Lessem, 2015).

Research was conducted in two rural districts of Mashonal and East Province of Zimbabwe. The first group, Domboshawa Cooperative Inquiry Group (DCIG) consisted of six men and ninewomen who live in Domboshawa District, 20km from the capital city, Harare. The second group, Murewa Cooperative Inquiry Group (MCIG) comprised seven men and thirteen women who live in Murewa District, 80 km from Harare. The two rural groups were conveniently selected and they met every four to five weeks for a period of six months. Both groups completed five action and reflection cycles. The groups engaged in political and epistemically oriented discussions to find ways to improve mobile phone uptake in rural areas that could lead to the improvement of livelihoods and wellbeing of people. The research questions which were jointly crafted to guide the inquiry process were:

- 1) What are the challenges rural people face as they acquire and use mobile phones?
- 2) How can mobile phones enhance rural livelihoods?
- 3) What should mobile operators do to improve mobile phone adoption in rural communities?

Through CI co-inquirers were guided by three truth values: reality is mind shaped, subjective and objective and also the knower and known participate so that the known becomes the knower (Lessem & Schieffer, 2010). Outcomes were validated by the congruency of practical, conceptual/propositional, imaginal/presentational and experiential knowledge(Reason,2002).Inquirers had equal access to information and participation starting from research designing, gathering and sharing information.

2.1. Engagement in Alternating Current of Informative and Transformative Inquiry

Researching with rural people involved participating in interpersonal relations and culture, transforming social and economic structures. As the inquiry into development and marketing of mobile phone products matured, all participants became co-subjects and co-researchers. At that point there was no difference between the researcher and the co-subjects. The purpose of the research was to bring new practice in the way rural people adopt and get transformed by mobile phone technology. As a result, the inquiry was mostly transformative in nature. The research culminated in new concepts, models and frameworks that are important for the development and marketing of mobile phone products and services for improving people's lives.

2.2. Researching in Successive Action –Reflection Cycles

Reason and Heron (1999) state that CI undergoes four distinct stages of inquiry. During the first stage (first reflection), co-inquirers in this study focused on the research topic, launched statement of enquiry, agreed on plan of action as well as ways of recording experiences. In the second stage, co-inquirers explored in action and experience. Experiences were captured on paper as well as pictures, audio and video recordings using mobile phones. In the third phase, the CI groups broke into new awareness and transcended the inquiry format. Finally, in the fourth stage (second reflection) the inquiry topic and recording systems were reviewed and modified. In addition, a plan to explore the inquiry into mobile phone service development and marketing was developed. From the

fourth stage, the inquiry continued through five reflection-action reflection cycles for each group. This is in agreement with the proposition by Lessem and Schieffer (2010:237) that positive research cycles improve and sharpen the focus of research.

The research groups engaged in reflection-action reflection cycles as they sought to understand their “world” and assist in the development of mobile phone products that are user friendly, appropriately priced and laden with benefits for improving people’s wellbeing and living standards. The desired products sought to embody tradition and modernity for rural emancipation. The overarching desire of all the research participants was exploring ways to transform rural communities using mobile technology. Adhering to the recommendations of Heron (1996), the co-researchers ensured the research was valid in terms of goodness, trustworthiness and authenticity.

Heron (1996) advances that research validity is a matter of authenticity, which is a function of goodness, quality and trustworthiness. Through inquiry the goodness, quality and trustworthiness of the research was tested and confirmed. In order to fulfil authenticity criteria, co-inquirers got equal access to the inquiry process (fairness) and also ensured their personal cultural views were enlarged (ontological authenticity). Authenticity was further tested by how co-researchers were enhanced by understanding other people’s culture (educative authenticity), and how stimulated and empowered the co-inquirers were to change their culture as a result of the greater “enlightenment” (catalytical and tactical authenticity). Most of the co-inquirers managed to change their views about mobile phones and started using services such as mobile agriculture, mobile insurance and mobile money. There was full participation of every inquirer.

Reason and Heron (1999) posit that knowing through CI is more valid, richer, deeper and true to life if the four ways of knowing (experiential, presentational, propositional and practical) are congruent to each other; that is our knowing is rooted in what we go through or experience. We express what we know or understand through stories and images as well as concepts and theories we formulate. Finally we demonstrate that we know through the activities we do. MCIG and DCIG went through all the four modes of knowing. The co-inquirers were able to explain their experiences through drawings, writing, poems, songs and drama. The two groups separately made propositions and produced concept son mobile phone services. The groups increased adoption and utilization of new mobile phone based services such as internet and financial services. New knowledge on product development and usage was created through fusion of traditional thinking with the modern and reflection on life experiences.

3. Data Collection and Analysis

Data was gathered through text, pictures, audio and video. Data was analysed using content analysis. Through discussions, narrations, drawings, singing and recitations about mobile phones key words, phrases, concepts and categories emerged as meaning units. Graneheim and Lundman(2004:106) describe meaning units as texts, words or expressions that have similarities through their setting and content. Through inquiry, humane values of sharing, caring, inclusivity and togetherness emerged as critical elements of serving rural communities as they promote integral, inclusive and sustainable exchanges.

It was agreed by research participants that humane values enable companies to apply justice and fairness in their dealings and also to care for the environment. By adopting humane values, a mobile firm is most likely to look at the socio-economically disadvantaged rural people, not with scorn or a despising attitude, but with a desire to positively change their circumstances. Co-inquirers also agreed that firms that embrace humane values automatically insulate themselves from corporate greed and other exploitative tendencies that stifle development through poverty and inequality in rural communities.

While discussing reasons why rural people were not adopting mobile phone services, some of the co-inquirers said, “We climb trees to make calls or receive messages, ...Our airtime balance just drops”. Such statements pointed to reliability and quality of network system. In another discussion, members stated that, “Mobile operators give you very little for free”. Others expressed that “mobiles are demons that steal money”. Affordability was the main theme that emerged from these statements. Table 1 below summarizes the themes that emerged as co-researchers engaged with the aim of finding better ways to increase mobile phone adoption.

<p>Cluster A “We have no coverage in our area so we never bother about phones.” “Sometimes you can’t recharge or send money.” “We climb mountains and trees to call or receive messages.” “My airtime balance just dropped.” “No electricity, no phone services.” Main theme: <i>Network/system reliability</i></p>	<p>Cluster B “Money just disappears from the phone.” “Mobile charges are for rich people.” “Mobile operators give you nothing for free!” “A phone is a demon that steals your money.” “They give discounts when people are asleep. These are meaningless offers.” “Feature phones should be less than \$10 and airtime \$1 per month.” Main theme: <i>Price affordability</i></p>
<p>Cluster C “The staff are arrogant people, who listen to nobody.” “They never answer calls.” “They bombard you with promotion messages at 8am, 10 am, 12pm, 6 pm, 10pm.” “If you join by mistake you can’t come out. They make it so difficult.” “They care only about their money.” “They are dishonesty.” Main theme: <i>Customer caring</i></p>	<p>Cluster D “I don’t know how to access some of the services.” “No one seems to resolve my problems.” “Most of the staff don’t know how their products work.” “Some of us do not know where to press.” “The products are too complex to understand.” “To get information press 1, then 4, 3, 8...it’s too cumbersome.” Main theme: <i>Knowledge sharing/evolution</i></p>

Cluster E

“Phones should lighten the burdens of my life?”
 “I need information on growing cash crops.”
 “The phone should be useful to everyone. Provide appropriate information to students, nurses, teachers, farmers.”
 “The phone should lift my standard of living.”
 “Help me access more business opportunities.”
 “Technology should help me increase my production.”

Main theme: *Product usefulness*

Table 1: Emerging clusters for mobile phone adoption

Based on the themes that emerged, the conclusion was that increasing mobile phone adoption requires reliable network systems, affordable prices, products that are useful in terms of meeting customer needs and requirements. The products should also be supported by knowledgeable staff who have caring hearts and a positive attitude.

Through action and reflection, the research groups further concluded that the fastest and cheapest route to improve rural livelihoods is by improving farming. Table 2 below summarizes the main themes and categories that emerged which are critical to improving farming. Firstly, mobile phones should facilitate the provision of reliable farming knowledge in a timely manner. Secondly, mobile phones should provide market price information and facilitate financial transactions. Thirdly, mobile phones should provide affordable and reliable communication to the farming community as part of maintaining healthy relationships. In addition, farmers are likely to be successful if they embrace the values of planning, discipline and hard work. Without good farming values, financial investment and extension service support will go to waste. When the mobile phone operators, farmers and support structures effectively contribute, this results in sustainable farming.

<p>“The moment they stopped paying fair prices I stopped growing maize.” “Some exchanges are only for the short term which is bad.” “You can get money but where do you invest?” “Suppliers can’t justify high prices of fertilizers and seeds.” “Fair prices keep us on the farm.” “I need easy ways to buy inputs and sell my produce.”</p>	<p>“My healthy crop got burnt when I applied herbicides.” “Some farming tips come when we have finished harvesting.” “Sometimes the information received is for crops that we don’t grow.” “We don’t know how to deal with cattle diseases.” “For good harvests you need reliable information.” “We need modern methods to improve yields.”</p>
<p>Main theme: <i>Favourable prices and financial transactions</i></p> <p>“To maintain good relationships we talk with suppliers, extension officers and government agents a lot.” “You build relationships through healthy communication.” “It must be easy to communicate.” “Most people are poor, they can’t afford airtime.”</p>	<p>Main theme: <i>Farming knowledge</i></p> <p>“We must harvest every year.” “Agriculture is for generations.” “We don’t focus on today but the future.” “The profit I get must ensure I continue farming.”</p>
<p>Main theme: <i>Affordable communication</i></p> <p>“To be successful farmers must work hard.” “Be the first to wake up and last to sleep.” “Planning is very important. Get seed and fertilizer early.” “When you prepare you don’t get surprises.” “You must be committed and disciplined.” “You don’t do what you like. You follow instructions.”</p>	<p>Main theme: <i>Sustainability of farming</i></p>
<p>Main theme/: <i>Farming values</i></p>	

Table 2: Emerging themes for improving farming

4. Research Results

Research established that for mobile operators to be effective in serving rural communities they must embrace humane values of caring, sharing, togetherness and inclusivity as a starting point. Humane values capacitate firms to develop products that are useful, user friendly and appropriately priced thereby meeting rural customer needs. Through research, the *integral marketing model* (IMM) for mobile phones was developed. Figure 1 below shows the IMM which advances the notion that MNOs that operate with humane values of caring, sharing, inclusivity and togetherness are capacitated to:

- i. Develop and maintain reliable and high quality network systems that offer good network coverage, efficient voice, data and value added services with minimum down times.
- ii. Produce useful products that meet customer needs and aspirations. In rural communities useful products should enhance farming.
- iii. Develop products that are affordable to the majority and offer flexible payment terms. Products are easy to adopt if they give value for money.
- iv. Care for customers by promoting genuine, long term relations that are inclusive and cooperative in nature for both parties to benefit.

- v. Evolve and share knowledge in terms of product awareness and usage. Customers should be trained and equipped with knowledge for increased adoption of products and services.

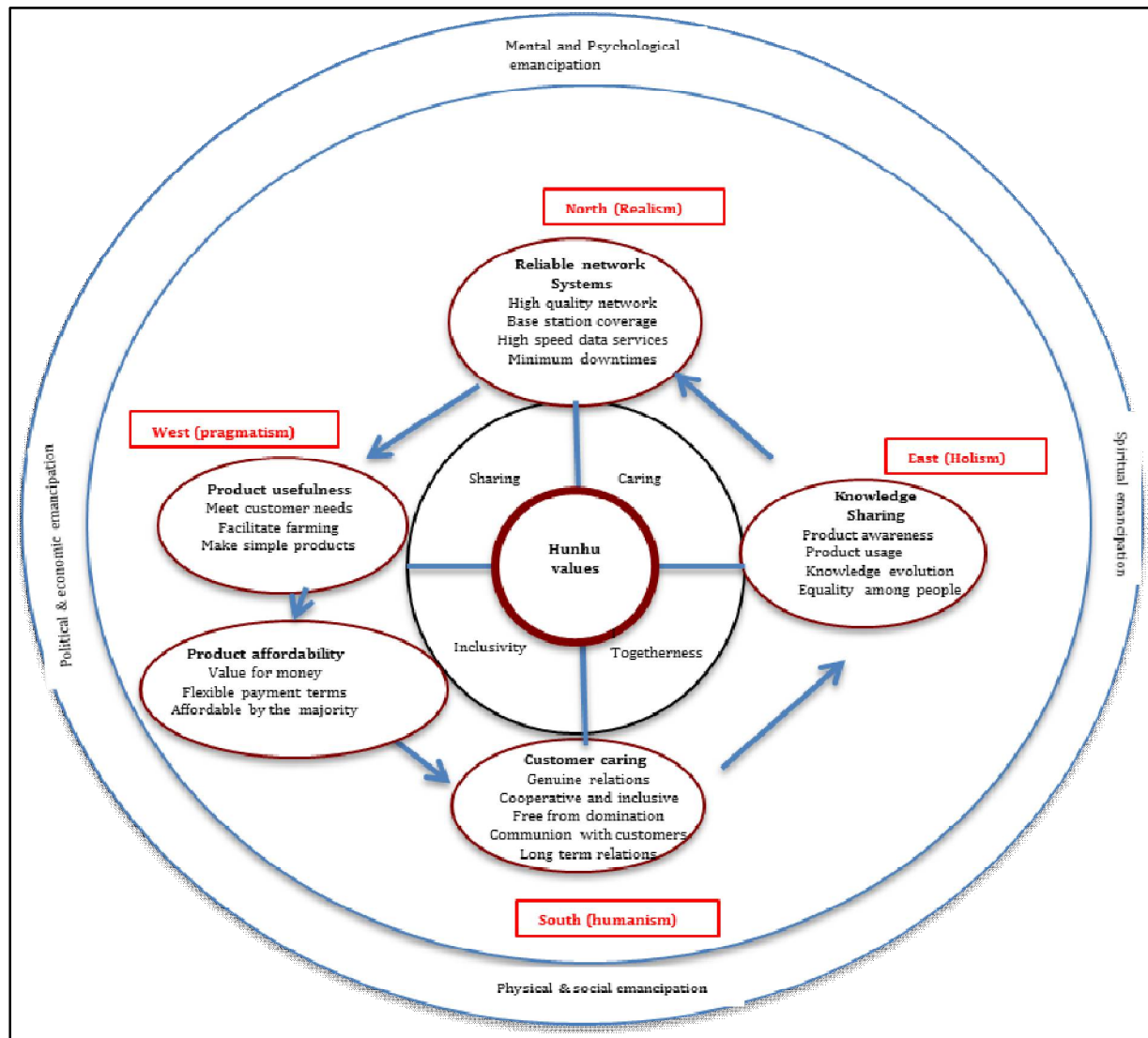


Figure 1: Integral Marketing Model

Once the IMM is implemented more rural people are likely to adopt mobile phones leading to their economic, social, mental, physical, psychological and political emancipation evidenced by the improvement of livelihoods and wellbeing. Furthermore, the research conceptualized and surfaced the *integral farming model* (IFM). IFM advances that livelihoods and well-being of rural people are greatly enhanced by improving farming. Mobile phones can improve farming by:

- Disseminating appropriate farming knowledge on key issues such as animal husbandry, land preparation, seed selection, disease and weed control.
- Providing market price information in a timely manner
- Promoting strong relationships among farmers, farm employees, suppliers, buyers and agronomic extension officers through communication

Research also revealed that farming knowledge delivered by mobile phones improves product quality, productivity and yields by up to 20% in some cases. Farming knowledge is useful if it is relevant, timely, customized and modern. Good harvests improve incomes and food security. To enhance livelihoods through farming, mobile phones should provide reliable and affordable communication as part of building beneficial, healthy, and long-term relationships among all the stakeholders. Farmers are attracted and inspired to work in the fields if the prices of inputs, produce and investments are fair, sustainable and justifiable. The research also revealed that farming produces better results when farmers embrace the values of discipline, hard work and planning.

Figure 2 below shows the *integral farming model* (IFM) that can be adopted to improve product quality, yields, productivity and incomes of rural farmers. When villagers are capacitated to manage their production cycle in an efficient manner, for example, from land preparation to planting, growing, harvesting, storage and selling, food security is enhanced, poverty eradicated and the quality of life improved.

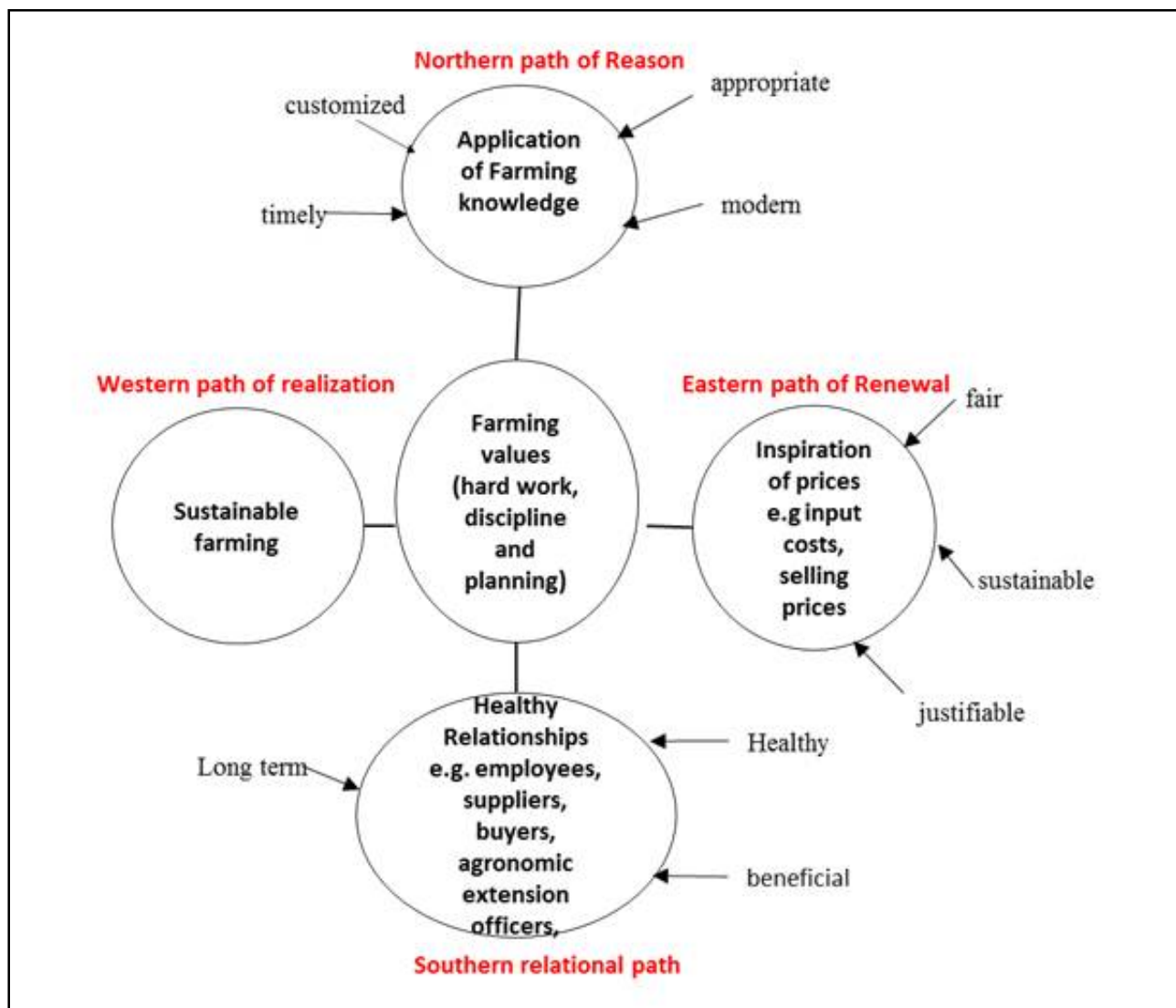


Figure 2: Integral Farming Model (IFM)

4.1. Methodological Limitations and Future Research

Action research through cooperative inquiry, where the researcher and subjects work together to investigate phenomena, is always vulnerable to the question whether other researchers would come up with the same results. Well established and documented methods were used to collect data to minimize researcher bias as prescribed by Heron (1996) as well as Reason and Bradbury (2001). Kvale (1996) argues that what is critical in the inquiry process is not whether two researchers come exactly with the same results but rather whether the results reliably represent what is happening on the ground. Participants were conveniently selected to form a sample of 35 people so the results are not generalizable to the whole district under study or other districts of Zimbabwe.

For future research, it is of interest to establish whether people from other rural districts regard mobile phone adoption as mostly influenced by similar factors of reliable networks systems, useful products, and affordable products delivered through caring and knowledgeable staff. Further research could also investigate the extent to which these factors individually and collectively influence mobile phone adoption. Understanding whether there are other independent variables that influence mobile phone adoption in rural settings, and their correlation is also of great interest.

5. Conclusion and Practical Implications

Through research, the *integral marketing model*(IMM) and *integral farming model*(IFM) were conceptualized and developed as critical tools for serving rural communities with emancipatory mobile phone services that improve livelihoods and wellbeing of people. Business leaders should be aware that effective development of products and services for rural communities begins by embracing humane company values that are based on caring, sharing and being inclusive. Once the company has the right heart and mindset, then it can develop and market good products that are easily adopted because they meet customer needs and aspirations. Fit for purpose products and services, supplied by reliable and high quality systems, bring physical, social, economic, spiritual and economic emancipation. They improve livelihoods and the wellbeing of people.

To enhance livelihoods, there is also great need to improve farming which is the mainstay of rural people. Farming is promoted by mobile operators, for example, when they provide timely customized information for growing crops or rearing livestock. Mobile operators should also facilitate financial transactions and provision of information channels which relay price information that is reliable, and timely among the various agro- players. By improving farming, mobile firms capacitate rural populace to pay for products resulting in profitable and sustainable market relationships. When the majority of citizens living in rural areas can easily access mobile phone products that are of high quality and competitively priced, economic and social activities are enhanced leading to higher economic welfare and quality of life.

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