



aXiom Zorn

Authentic data that drives change

About us

aXiom Zorn is an one-stop data enterprise offering data solutions for institutional clients and service providers. We ensure that projects use and get authentic data that drives their business.

We employ Information and Communication Technologies (ICTs) to address the current information gaps in the different sectors in Uganda (Agriculture, Health, Nutrition & Education).

We have profiled farmer communities in all the geographical regions covering Uganda, and built a reliable database that can be used for analysis and decision support.

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OVERVIEW

Interventions carried out by various development partners (Funders, implementers researchers) rely heavily on accurate and actionable information about their target beneficiaries.

At aXiom Zorn, we know that gathering and aggregation of this information is resource intensive especially in terms of project management, time and cost. To curb this, we have built a data base of over 300,000 beneficiaries in Uganda.

This data base can be leveraged by different development partners in not only reducing time spent in trying to access the beneficiaries but also in accurate decision making for interventions based on available and accurate data. Axiom Zorn provides data tailored to the requirements of the user/client.

We focus on profiling various groups of beneficiaries across the African continent by collecting information about them. The data includes but not limited to bio data; production data; livelihood data; needed for the design and development; implementation; monitoring, evaluation and learning of a wide array of developmental projects.

We connect decision makers (project donors/funders and implementers) to a real-time dynamic data, analytics, trends, statistics, through platforms that use data to reflect the accurate business and implementation information to development partners around the world.

Our interventions are powered by dynamic dashboards and GPS mapping that allow for advanced visualization and geospatial analysis. This ensures the integrity and easy validation of the data we produce. aXiom Zorn has a strong managerial team composed of various skill sets: Project Managers, M&E, ICT, Agronomists, Finance and Investment specialists to mention but a few. In addition to this is a network of regional coordinators, field agents and extension workers.

300,000+

database of beneficiaries in Uganda built to curb the intensive cost in terms of project management time and resources.



Reduced time spent in trying to access the beneficiaries



We connect decision makers to a real-time dynamic data, analytics, trends and statistics

WHAT WE DO

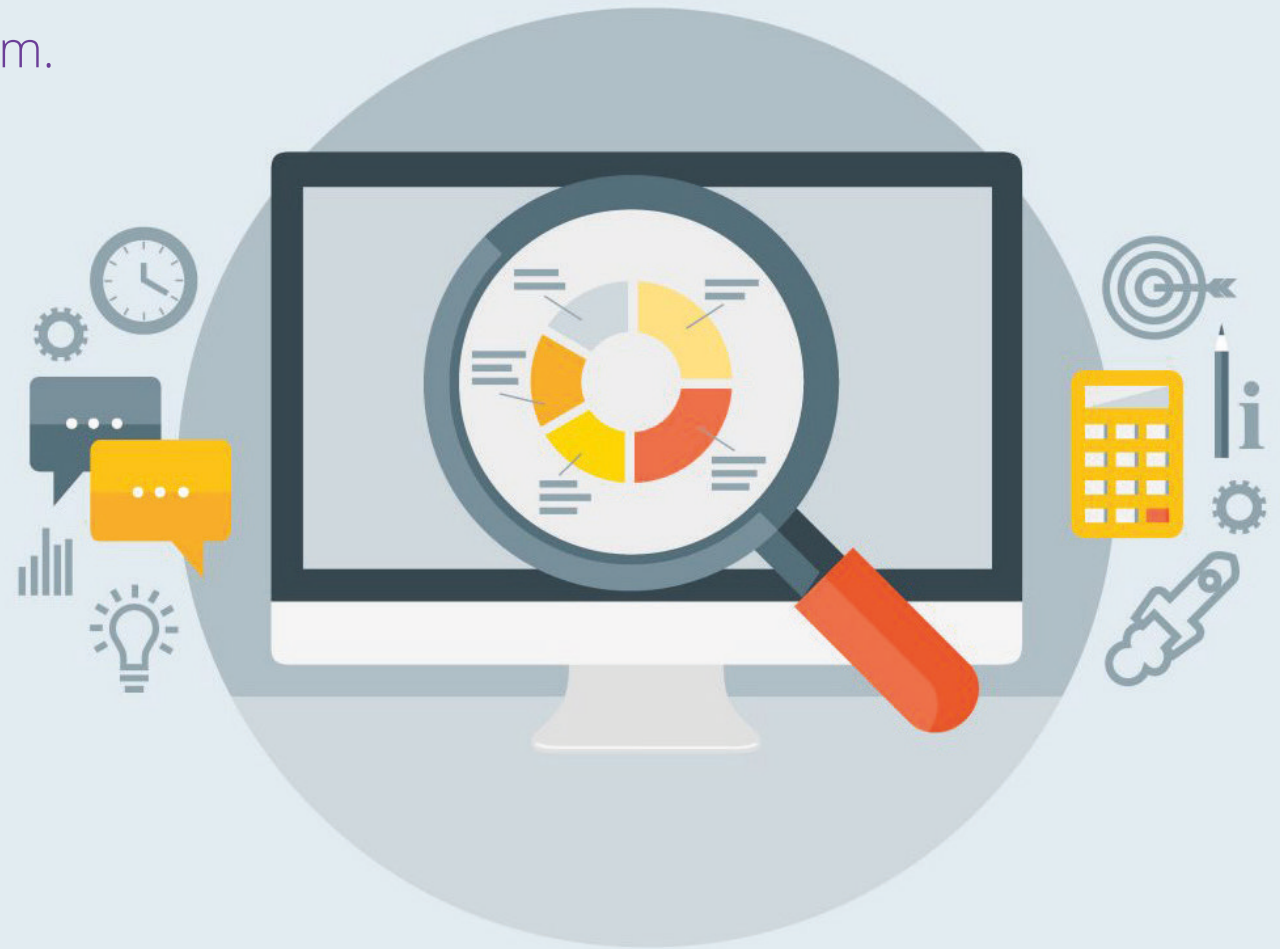
Focus areas of the aXiom Zorn system.

Data collection

The data collection is handled using an industry-standard format of the Open Data Kit (ODK) and as such is very translatable.

The forms are deployed on smartphone devices with no need for Internet services to fill them out. Agents can reach the most remote areas without access to the Internet; only location services activated on the phone. Location is verified using GPS technology.

The data collection tool is designed to be simple to use, easy to adopt, facilitating the backbone of the entire data collection process.



WHAT WE DO

Data Presentation

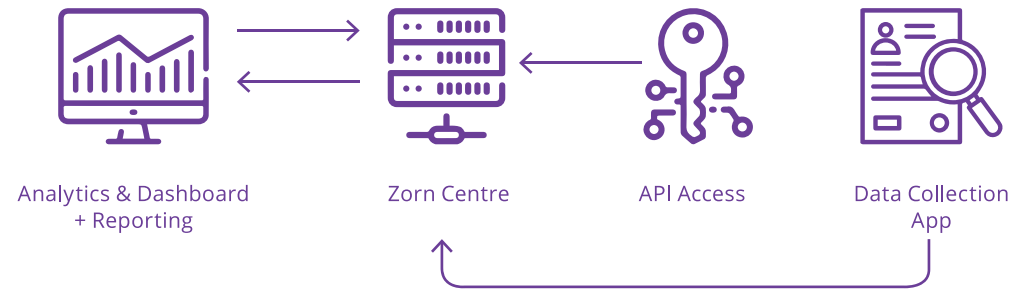
The data presentation layer is divided into 2 major services: Dashboard and Reporting. All information at aXiom Zorn is aggregated and stored in the database. The dashboard helps provide access to all this information and added functionality. It is a central place that partners and project stakeholders can use to access data and reports, as illustrated in figure 1.

The dashboard is built with an Application Program Interface (API) first approach to facilitate separation of concerns and isolate functionality from the look and feel. Optimization for mobile as well as accessibility has been taken into consideration to support a wide array of devices. The dashboard is built with an advanced role-based permission system to avail different levels of functionality for the various users of the system. The roles are granular across use case and level of access for each user for each function.

Users of the dashboard have easy access to all the information as well as data on the move.

Reports can be custom built from filters that the user specifies, with a variety of formats in which to download the data, including xls, csv, pdf. The reporting functionality has also been extended to offer downloads of graphs for the specific indicators selected.

Figure 1: System diagram



WHAT WE DO

Service Interface

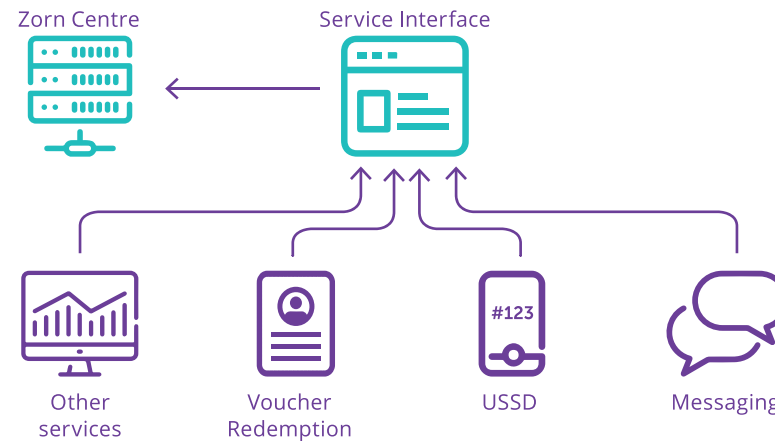
The service center is a pluggable interface that allows custom services to be designed for the users in the databases.

These services can range from messaging to voucher redemption and can be customized to the particular needs of the client for the specific group of people in question.

The service center (figure 2) is an app store for aXiom Zorn to provide extra functionality against the data in the database and avail all this to you in a simple interface with a single access.

The functionality that can be plugged into the service interface is limitless.

Figure 2: aXiom Zorn Service Centre



The aggregation of all system components makes it possible for development partners to have oversight of ongoing activities while accurately measuring the impact of interventions they might be interested in tracking.

SERVICES SUMMARY

Stakeholder needs and service mapping

Our focus is on three main categories of stakeholders: Funders, Implementors, and Researchers. We have identified the following as the needs of our stakeholders, that our services address:

- i. Data visualization (analytics, trends, projections, data stories);
- ii. Volumes/ counts and location;
- iii. Interventions and innovations by other industry players;
- iv. Impact evaluation of interventions and innovations;
- v. Methodologies used and their sustainability approaches/ strategies;
- vi. Records kept along the various value chains;
- vii. Monitoring, Evaluation, and Learning;
- viii. Reports and accountability;
- ix. Resources (human, financial, technology and time); and
- x. Skills development and capacity enhancement.

We have mapped these needs to our stakeholders as shown in figure 3

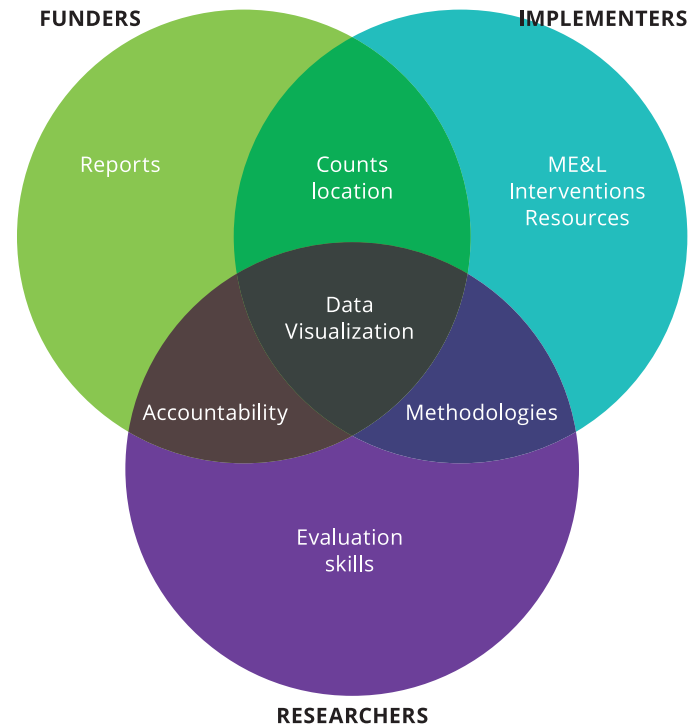


FIGURE 3: CONCEPTUAL MODEL FOR THE NEEDS-TO-STAKEHOLDER MAPPING

Basing on the model presented in figure 3, our services have been tailored as shown in figure 4.

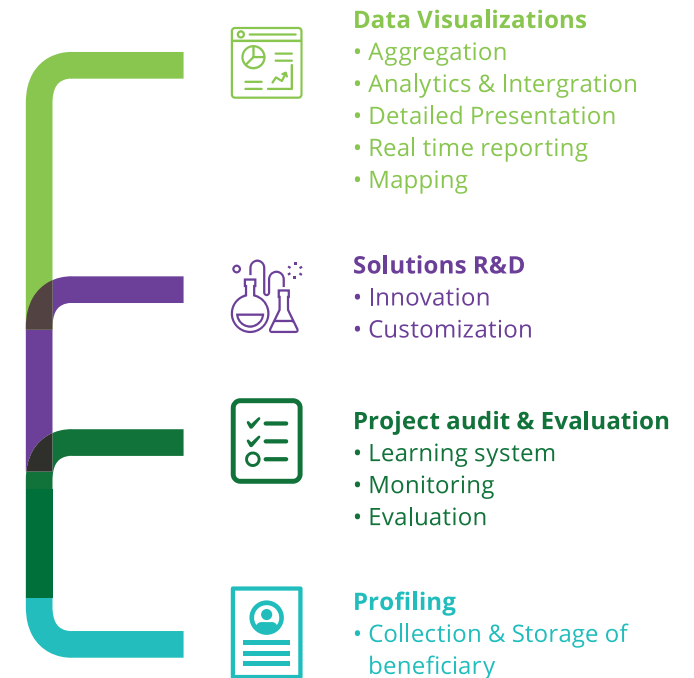


FIGURE 4: AXIOM ZORN SERVICES



Profiling of beneficiaries

Data and statistics about the beneficiaries that include but not limited to biodata; production data; livelihood data, access to technology and financial services, health and nutrition and specific location is collected. This data is then stored in our database from which various data stories are obtained as per stakeholder requirements.

Our Profiling entails working with our wide network of field agents to compile bulk information aimed at uncovering prospects in any one situation where our stakeholders identify themselves with the beneficiary, or topic in question and are stimulated to think of appropriate, wholesome and sustainable strategies.

Our Profiling, therefore, includes comprehensive capturing of evidential metrics, digital/GPS mapping and real-time parameters aggregated to enhance more individualized and timely interventions. Data may be small but big in combination and it's the reason our profiles are geared at enforcing extrapolative, prescriptive and cognitive data analytics.



Data visualizations

Data visualization is using data and statistics in creative ways to show patterns and draw conclusions about a hypothesis, or prove theories, that can help our stakeholders to make the right decisions and derive the desired impact.

Our data visualization services don't just focus on the facts but the people as well. Our main advantage is our access to a widely spread network of field agents that are equipped to capture real-life photos and videos of the beneficiaries. This supports the development of various visuals and infographics, graphs and charts all capable of being plotted on GPS based maps.

In addition to compelling reports that use data stories, our system is capable of offering real-time reports through our dashboard.



POP Credit Score

POP credit score is a model we developed and use as an alternative assessment of the unbanked farming community for financial inclusion to support their productivity needs. The needs such as inputs, equipment, commercially viable labour etc. require finances that the communities are unable to raise.

The most vulnerable categories of the communities are mainly three (3), namely; non-commercial smallholder farmers, commercial smallholder farmers in loose value chain and commercial smallholder farmers in tight value chain.

The credit worthiness of these farmers and small-scale agribusinesses and the breadth of their risk is assessed based on non-financial assets and parameters customized in a local context. Some of the parameters and assets of a digital farmer profile include:

- a) Land and ownership;
- b) Productivity of the farmer;
- c) Household economic status;
- d) Household labour;
- e) Mobile money transactions and Airtime; and
- f) Farmer social reputation; among others.

The parameters and non-financial assets are run through computer algorithms and the farmer's liquidity, solvency, efficiency and repayment capacity determined as a percentile of their profile that we call POP credit score.

This offers an entry for financial institutions to know who to lend to with a great guarantee of repayment.

Data collected from farmers is geo-tagged, enriched with soil map overlays and basic fertilizer recommendation from fertilizer optimization tools (FOT) which provides information on the farmer's potential productivity.

Our last-mile agent network is at the disposal of our clients to accomplish any last-mile assignment that the financial institution may require.



Solution Research and Development (R&D)

We create innovative solutions to support development initiatives. Customers demand advanced technologies, excellent designs, exceptional quality solutions. In order to accommodate all these, we work hard to offer innovative tried and tested methods that have an impact on the delivery of the solution.

- 1. Research:** We gather information about your product idea and the problem it solves. Through brainstorming, focus groups, market research, creative concepts, experimentation, and evaluation we design your idea and make it into reality.
- 2. Product Design:** Designing a new idea or invention is not merely about its physical form; it involves problem-solving to improve the quality of a new or existing product and enhance the end-user experience.
- 3. Product Development:** We understand that developing products require discipline and rigor beyond traditional engagements. It requires a focus on upfront design, constant iterations, and milestones defined as viable products. We use development methods that optimize critical resources at a time when you need to get your product/intervention to market faster than ever before. We work with partners to nurture ideas and have them grow into interventions and businesses.



Project audit and evaluation

This targets both the beneficiaries and the implementors. We base on standards that provide adequate details to ensure that the project stakeholders can map the project objectives to both the results and impact.

Our project audits involve conducting gap analysis, determining; whether project goals were achieved, the satisfaction of the stakeholders, the project costs and benefits, we identify areas of further development, lessons learned and we report and also recommend.

We also offer integrated Monitoring, Evaluation and Learning solutions from project design through to implementation and close down. Our goal is to enforce proactiveness and transparency so our clients remain accountable while improving the quality of the services they deliver. Our systems analyze performance and whether targets have been achieved, ensuring the five core standards of 'relevance', 'effectiveness', 'efficiency', 'impact' and 'sustainability'.

Our interventions across the different sectors have increasingly shown our clients real-time accurate, actionable information and the impact of their programmes to their target beneficiaries.

ICT for Agriculture (ICT4Ag - Digitalisation)

Our digital data platforms support holistic services such as farmer registration; agronomic and produce collection records; farmer payments; digital procurement; e-receipts; and provision of real-time updates from field operations. These stimulate innovations that lead to sustainable agri-food systems given their nature of 'quantified self' of the members of the farming communities.

Real-time information from the live databases has enabled timely delivery of content on agricultural best practices anchored on our digital platforms; pest, parasite and disease surveillance for both crops and livestock, market information and generally digitizing

elements of the last mile agricultural supply chain. This coupled with the use of mobile-enabled tools is promoting farmers inclusion, empowerment and agricultural practices. Our solution has not only increased productivity among the smallholder farmers but also allowed descent livelihood as they are able to farm more profitably as they access market information, value addition opportunities, and financial services.

We close the gap between the need for social and environmental impact and equitability in the agriculture value chain and commercial interests of stakeholders in the agricultural industry and AgriTech space.





Finance

Digital Financial Inclusion

With the banking sector, our services enable financial institutions to extend affordable financial services to underserved communities in a way of an inclusive economy. Through our micro-data and comprehensive assessment of the less privileged communities in terms of their resources and productivity, we have an in-depth view encompassing financial wellbeing from which we build credit scores where financial institutions can precisely know their consumers (KYC), and the corresponding creditworthiness, repayment likelihood among others.

With as much as 300,000 profiles of farmers that we host, we are evincing a breakthrough in financial service offering from banks, microfinance institutions and mobile network operators willing to offer saving, credit, insurance services and developing cashless transaction platforms. As such, communities make profitable agricultural and non-agricultural investments and cashless transactions reduce risks of losses arising from intermediate parties. This has seen a general growth of businesses and an overall economic growth among communities.

Health

Health and nutrition

In the sense of an integrated approach to solving health and nutrition bottlenecks, we offer an ecosystem that allows profiling household, data interpretation and modeling to achieve nutrition and health solutions at a more personalized level.

We ascertain societal nutrition options, individuals' daily activities and minimum personal nutrition requirement by generating complex data strata. Thus as we undertake the integration of technology into daily life, there is a collaborative space that allows monitoring of health status and individuals are able to take more ownership of their health through our feedback mechanism.

Specific health information collected enables disease surveillance and subsequent trends and through integrating our databases of the communities with health information, applications are crafted to improve the system efficiencies for individuals, communities, health professionals and research practitioners in need of information.

eLearning

E-Learning and Visualization

With the globalization of technology, we have arrived at the future of E-Learning. We use effective tools for prognostic analysis, multi-source knowledge mapping, and machine learning, to design systems (LMS) that cater for individual learning & analytics needs.

Supported by our ever-growing big-data environment, we envisage the transformation of the conventional pedagogy where digital data in its multi-disciplinary context e.g. learner's performance, administrative, household factors, trends and the corresponding analysis gives a more comprehensive evaluation that drives stakeholders into achieving optimized learning experience through seamless integrations of data, analysis of performance, learners' tasks to visualize outcomes and provide real-time feedback about learners and giving them tips to improve learning.

Trainers are also enabled to monitor and compare success across varied methods of instruction and thus develop better models to improve the quality and impact of their undertakings.

Value added services

Axiom Zorn has capitalized on its previous activities and experiences to offer the following value added services.

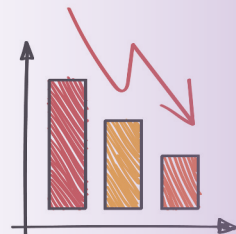
Soil mapping; We have stocked an inventory of soil types and the corresponding interpretations that we extracted from our database to facilitate map overlays of any targeted districts or sub-county in Uganda. This can be leveraged to inform both crop suitability, the corresponding soil management practices and an overall land use type to prioritise.

Fertilizer optimization tools; Axiom leverages and incorporates the fertilizer optimization tools available per region as part of its approach for farmer-friendly recommendations into prudent fertilizer use. This therefore helps to inform decision on how to maximize net returns to fertilizer use among the farming community.

Short message service; From our service center interface, Axiom Zorn supports its clientele in the delivery of tailored short message services (SMS) to beneficiaries. Information flow is required by several projects particularly in the areas of marketing, fostering production techniques and other information. For instance through leveraging our in-house data, information can be dispatched to farmers on suitable planting dates per season for the different crops.

Weather alerts and agronomic tips; Just as seen with the SMS, Axiom Zorn delivers short message alerts on weather to support farming and post-harvest handling decisions. The Service bundles are modeled from Geo-data feeds into weather and specific agronomic messages that are generated based on the information (satellite technology) from data partners. The agronomic tips on the other hand are generated in consultation with scientists from National Agricultural research Organization who translate the satellite-based information into Agronomic practices required of the farmers during the production Season

DEBT



Value added services

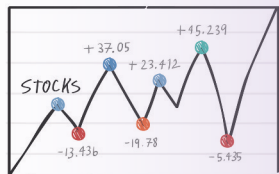
Market linkage app; We take advantage of our databases of the different stakeholders and the different value chains to link the different players e.g. bulking centers, agro-input dealers, off takers, and the other related SME's in marketing agricultural products at different sub-counties and farmers through an app

Crop insurance; we are able to support the provision of insurance against crop loss attributed to unmanageable risks through our on-season monitoring approaches throughout crop production cycle and our partnerships.

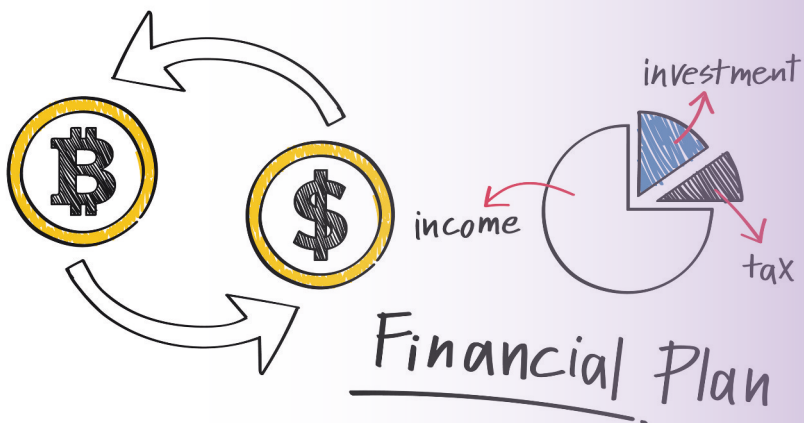
Digital payment systems and warehousing receipts (E-voucher system); We support digital payment platforms where farmers can be paid through mobile money and a token issued to them which is in the form of a warehouse receipts for record purposes. This in turn can also work as collateral by some financial institutions which can allow the farmer to receive funds to work on the produce.



Savings



FINANCE



summary



SUMMARY

aXiom Zorn in brief

PURPOSE

To be the primary provider of not only data but also focused advisory and research services across various sectors including: agriculture; nutrition; health and safety.

MISSION

Provision of Evidential Data to draw out impact and offer solutions

VISION

To excel in the provision of evidence based data on impact in sectors of agriculture, nutrition and health in Uganda

CORE VALUES

1. Creativity and innovation.
2. Respect to clients
3. Integrity and honesty

GOALS

1. Digitalisation of the lower pyramid to increase farmer visibility and access to services.
2. Compressing the supply chain to enable efficiency, effectiveness, transparency traceability, and accountability.

OBJECTIVES

1. To leverage digital data to drive social transformation in agriculture health and nutrition
2. To provide a comprehensive profile of various beneficiary communities, covering various aspects of the members as well as their respective environments.
3. To host a secure and reliable database that can be integrated with/ accessible to other systems for quick and efficient use of the information.
4. To develop and support a range of bankable projects aimed at helping the communities get access to financial and technical support.
5. To provide insight into research conducted on communities in sectors of farming, health, nutrition and livelihood for development partners.

aXiom Zorn

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