Position Paper

Industry Profiles: Using Knowledge for Growth

Progressing forward without knowledge is nothing but wishful thinking and a gamble. Without a reference or meaningful way to inform your next step, whether as an individual company or an industry as a whole, you take it on faith alone. We are in the information age, where knowledge is power and meaningful information is the new oil. Most of our local manufacturing industries have not yet welcomed this revolution, leaving us in the dark as innovative competitors abroad integrate helpful technologies, giving them good information to make informed decisions.

We need to create industrial knowledge, full of good information we collect first hand from local manufacturers and industrialists. We need a solution forged in the interest of local industry, by local industry. This is what we see as a promising potential future for South African manufacturers.

The RSA Clusters Group aims to use responsible technologies to help connect local industry, strengthen linkages between local manufacturers and industry support, and develop a dynamic knowledge base.

Why do this? An industry changing around us.

At RSA Clusters Group we understand how value chains work. We also know that technology advancements will drive progress in a relentless manner, and with it people's expectations of how they source information, goods and services will change. Much like how renewable energy and electric vehicles are inevitable and generally accepted by many as 'the future'; the digitalisation of legacy industrial supply chains is also inevitable. The very dynamic of the buyer-supplier relationship is changing thanks to modern tools. New technologies are changing the way business is done, along with the expectations of the buyer.

In a competitive global environment, if you cannot be easily found, you lose out to those that are. While technical buyers have been resilient to digital changes, as sellers are becoming easier to find and the speed of sourcing new suppliers is rapidly improving, concerns are being overcome, and online searches are becoming more common. Research has shown that buyers may get into the habit of limiting the breadth of their search to a few tools that make the process easier and more convenient for them. For example, why source multiple catalogues and peruse individual websites of manufacturers in search of a product you wish to procure, if there were a way to easily find what you are looking for in one place, easily

searchable? This added convenience would lead to less effort in sourcing catalogues moving forward. Therefore, the long term consideration would be whether industry works to build an equitable solution to solve this issue themselves, or whether the need is left for a multinational tech-solutions provider to fill, often at the cost of an unprepared local industry.

In the Chinese market, for instance, equipment, components and parts are freely available online, with detailed specification tables, company information, contact details and costs, all available on Alibaba. If South African manufacturers have a wait and see mindset, they may be forced to adopt an Alibaba like solution down the road, one which they had no input into, and which their foreign competitors have already been familiar with and using for years.

Playing Catch Up

Many developed countries and highly effective developing countries have endeavoured to map their industrial sector, as well as to develop dynamic tools to monitor and measure a range of different industrial performance criteria. In doing so, they have made their industrial capacity and capabilities more searchable, and easier to introduce to new markets. For example, the Chinese government is actively promoting the expansion of their manufacturing sector (across industries), empowering their manufacturers locally, and helping to push Chinese-made goods into markets around the globe. They know exactly who makes what, and understand the tremendous economic multiplier effect that manufacturing can have on their economy.

A project to develop industry profiles in South Africa would have a similar overall objective. We would like to make finding a local manufacturer that is suited to make what you need simple, addressing discoverability constraints that challenge both buyers and suppliers, and empower industry support and government to better understand the need and coordinate their response.

How should this be done? The need for accountability and responsible technologies.

A safe, secure internet environment is needed. Unfortunately, not enough is commonly known about technology, data science, and the use of big data among non-technical people. As a result, a distrust may form that is fueled by statements like “you are being tracked”, “you are the product”, etc. These surveillance-like data technologies are often used by big tech companies to make money. It is important, however, to understand that this is far from the only use case or eventuality for big data. A lot of big data is collected without the use of tracking technologies. Such responsible data is being used to inform and empower people and organisations that are working to improve the world for everyone, such as universities open sourcing

research to help aid medical ailments. We advocate for the latter, a responsible, consensual means of collecting data. Also, allowing the user to own and manage their data.

To do this right, we need accountability and oversight baked into the very fabric of the solution. We will form an oversight committee, housed within the RSA Clusters Group, that will act in the best interest of the local manufacturing industry, and not for private gain. The Committee's Constitution will be written to avoid manipulation of agendas, with the objective of any negative activities not having a lasting impact on the local industry and its goals moving forward.

Atop the right structures, we need to ensure that we use responsible technologies. Fundamentally, this means using technology that was written from the ground up with privacy and security in mind. The technology needs to be open and allow transparency into how it works and what is done with user data. Users must have a good level of understanding regarding the way things work, knowing where the information resides, and how it will be used. They should be comfortable to entrust their information to the data facilitator, and be comfortable to share necessary information via the means of an information sharing agreement.

This information sharing agreement allows for information to be stored privately and securely, and only shared when formal consent is given as per the agreement. The technology solution should be open source. This simply means that anyone may inspect the code to ensure that it does what the developer claims it does.

We knew that for the solution to be sufficient, it needed to:

- Be affordable to both big and small companies.
- Offer a curated, quality controlled digital network.
- Enable individual companies to retain ownership, manage and store their own information securely.
- Allow companies a means to ensure that their information is up-to-date.
- Enable information sharing as per formal agreement, in a way that is executed and policed by the platform itself.
- Ensure that the maintenance and updating of information is simple and painless.
- Make it difficult for information to be used for any purpose other than its intended purpose.
- Its architecture should ensure that no party has the power to overwrite the rules and structures in place.

The Digital Cluster - More than just an idea

This technology is not a hypothetical. As RSA Clusters Group, we wanted more transparency in supply chains, to enable tier one buyers to have visibility over key deliverables throughout the supply chain. Finding technology that met this stringent

requirement led us away from the run of the mill business facilitation platforms and toward a team of skilled local developers with a shared objective.

We believe in the efficacy of this solution. That is why we have already invested almost a decade into its development and testing. The team have worked to build an open and trustworthy platform, architected to meet supply chain and cluster needs. We have specified, informed, reviewed, and assessed platform development. Once initial development had completed, we provided the tools to our members, sought feedback, and performed updates and improvements based on lessons learned.

Our commitment to this cause is not limited to its early development, however. We believe that the value of such an activity will have lasting and ever-growing value for local industry. Such a solution is more than just a place for buyers to search, it has the functionality to support the development of industry-wide profiles (e.g. available capacity, skills, employment, demand), competitiveness benchmarking, demand aggregation, infrastructure and/or development planning, just to name a few.

The first step toward achieving a moonshot idea is to have a mechanism and tools in place to enable continuous strides forward. This is what we have built. Thereafter, the key to realising potential future goals like stimulating demand or creating jobs, is to start tackling obvious stumbling blocks, like answering the core strategic questions: basically the “who”, “what”, “when”, “where” and “how” related to specific focus industries. Knowing who the manufacturers are in an industry (or an area), and what products they make, provides the building blocks to start mapping out demand flows throughout the supply chain. It also allows us to take defined corrective actions, motivated by evidence, or to correctly prioritise budget spend and activities. Similarly, if demand is better understood and less volatile, a manufacturer can ensure that it has the workforce necessary to meet the demand. A new entrant into the market may also create new jobs in working to meet expected demand.

<u>Momentum naturally creates economies of scale</u>

This solution would benefit from the phenomenon referred to as the “network effect”. Initial investment and purposeful growth actions are required to get it off the ground and start building out the network. Once the benefits become apparent and the network starts to scale, it will begin to perpetuate itself, growing naturally out of sheer momentum.

The wider stakeholder impact

We have every reason to believe that the government, institutions, and other manufacturing stakeholders will take a keen interest in the valuable information becoming available from industry, as a direct result of this solution, as well as the well informed decision making that will ensue.

As an industry support structure ourselves, we realised a critical need to help companies find the market, imagining that the wealth of information that industry holds could be used to revitalise and uplift industries and the industrial areas where they reside. Whilst pockets of information currently exist across the manufacturing cluster, it is often siloed, not well recorded or documented (i.e. stored in the head of a few ageing specialists), it is not scalable, lacks depth, and is static (based on an historical point in time).

Unless our solution or something similar is implemented, industry itself, and support structures wanting to help the manufacturing cluster achieve its goals, will have insufficient information to work with. The government is in no better position to know the needs of the manufacturing cluster in South Africa, and interventions are often misplaced or long overdue. The RSA Clusters Group receives several requests every month for information. Our responses are often limited to the manufacturers that are members or within our orbit – far from representative of the entire local market. The government speaks to industry support structures when they are looking for information. We (clusters, associations, chambers, etc) are often their source. Therefore, they inherit a similar limitation in their reach. This becomes a problem when they are trying to verify the validity of claims in an exemption request, to protect local industry from a company trying to bypass local content requirements. Another example is when the government is looking to write or amend policy to assist or police industrial activity.

Getting Started

Assuming funding is found or the project finds support elsewhere, we will build on existing relationships within the Steel Cluster to increase awareness and get support for the rollout across that cluster, which is by nature predominantly midstream and upstream companies. We will involve members of the steel community on our board, and establish an oversight committee to bring insights, and oversee the roll-out.

We will phase in our activities over time. Phase 1 will include machine shops, foundries, forges, and fabricators. Phase 2 will include expanding the profiling to other industries in the steel cluster, to be decided by the oversight committee.

Our decision to start with mid-stream component manufacturing and upstream supply in the metals value chain is simply that these are the suppliers we believe are considerably less discoverable, and will show the most benefit from such a solution, even early on in the roll-out process.

What kind of information will we be interested in?

- Information about the company
- Geo-spatial positioning
- Contact information

- Product listings and descriptions
  These could be:
  - Finished products
  - Weight/mass/volume (where applicable)
  - Manufacturing process (where applicable)
- Preferred products
- Certifications & Accreditations
- Basic skills profile
- Verified local content[1]
- Affiliations e.g. clusters, associations, chambers, etc.

Room to grow

Once we clear the initial hurdle of adoption, the platform has room to grow. Additional projects can grow within the network, adding additional value in time. We can scale from an existing base, at drastically reduced cost and within smaller periods of time.

What can be done:

- Municipal inputs (e.g. energy and water) and outputs (e.g. waste) can be measured to gather information that is used to find synergies between companies in close proximity to one another.
- Materials used and annual volume by material type can be collected to understand demand for, and the flow of materials across an industry segment.
- A detailed skills profile can be compiled to understand the current state of skills within an industry segment, and quantify the need for specific skills training.
- Applications for local content verification would become more meaningful - if we were to build a solution for making an official local content declaration more convenient and accessible, in preparation for a SABS verification to take place. This will streamline the first step in the process, delivering greater efficiency and cutting down some of the initial barriers a company may face.
- The platform can provide the necessary framework to tie into a trading platform, allowing the purchase of products, or the submission of RFQs directly from the website.
- The platform will empower industry support structures (clusters, associations, chambers and councils) to find alternate income streams, making available information more meaningful and helpful to their members and other stakeholders.

[1] This solution should tie-in to efforts by SABS and the LCCU, as part of the Steel Master Plan. For example, allow for the display of the official verified local content badge.

The need: funding

The primary obstacle that has led to the delayed rollout of this solution has been a lack of funding. Not only do the principal stakeholders (e.g. original team and developers) need a reason to make this their primary focus, but a project team is needed to carry out a project like this. Funding will provide the resources to make it feasible and actionable.
