CSIRO AGRICULTURE AND FOOD & GLOBAL INITIATIVES

BUSINESS-LED INNOVATION AND THE SDGs

TRENDS, DRIVERS AND OPPORTUNITIES

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CSIRO

global initiatives

List of Acronyms

CSIRO - Commonwealth Scientific and Industrial Research Organisation
FB&A - Food, Beverage and Agriculture Sector
MSME - Micro, Small and Medium Enterprises
R&D - Research and Development
RBF - Responsible Business Forum
SME - Small and Medium-size Enterprises
SDG - Sustainable Development Goals

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Introduction

At the end of 2016, CSIRO and Global Initiatives conducted an e-survey of businesses and their partners in Southeast Asia that explored business perspectives on innovation and the SDGs. The survey asked:

- Which SDGs are businesses and their innovations aligned to?
- What is driving innovation that is aligned to the SDGs?
- What sorts of innovation are taking place?
- What is supporting innovation and what is getting in the way?
- What opportunities do businesses see on the horizon and how can these be made to happen?

The purpose of the study was to try and get a snapshot of broad patterns and trends, identify emerging issues that warrant further investigation and, more importantly, use these initial findings to start a wider discussion on business-led innovation and the SDGs, and the pathway for accelerating this.

The survey was sent out to all members of Global Initiatives Responsible Business Forum (RBF) Network in November 2016. Members include both large and small companies, business support agencies and platforms and partner agencies from a diversity of sectors, including health, manufacturing, services, food and agriculture, etc. A total of 121 organisations responded to the survey, of which 73 completed the full list of questions (see annex 1 for questions and survey results). Where possible the results of the survey have been disaggregated to illustrate similarities and differences between (i) the food, beverage and agriculture sector and other sectors; and (ii) large and micro, small and medium sized enterprises (MSMEs), the latter classified for the purposes of this survey as businesses with less than 50 employees

Before presenting the survey results this report presents a contextual section, which offers a brief orientation on innovation and current thinking on enablers and bottlenecks that are often encountered. This section informed the design of the survey. The report then presents the main trends observed from the survey and discusses on the meaning and significance of these. The full survey results are presented in Annex 1.

Headline messages

The survey received relatively poor responses from businesses in Southeast Asia, but the results do suggest that the SGDs are on the radar of many businesses with an interest in the region. Innovation and business drivers are often in-step with the intent of the SDGs. However challenges remain: the policy and regulatory environment needs attention; effective modes of partnership, particularly with the public sector are yet to fully emerge and are a prerequisite for addressing the SDGs at scale; and public sources of R&D, technology and related expertise seem to play a only limited role in business innovation. A simple survey of the sort conducted can point to these broad trends. However, to better understand how opportunities for SDG aligned business innovation could be advanced, a deeper exploration of some of the issue raise is required.

Innovation for the SDGs: Drivers, enablers and bottlenecks

The Sustainable Development Goals (SDGs) (see box 1) present a vision for a world in which individuals, businesses and nations can all prosper and look forward to a sustainable and equitable future. Increasingly, businesses are recognising opportunities created by the correlation between social impact, environmental protection and business growth. These opportunities may take various forms: more sustainable production systems that reduce cost; new markets for healthier foods; packaging and processing that reduces waste and also reduces environmental damage; profitable business models that share value with customers and suppliers; market information systems that provide efficiencies, and make costs and prices transparent to low income consumers and suppliers, to name but a few.

Box 1: The Sustainable Development Goals (SDGs)

SDG 1: End poverty in all its forms everywhere
SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
SDG 3: Ensure healthy lives and promote well-being for all at all ages
SDG 4: Ensure inclusive and quality education for all and promote lifelong learning
SDG 5: Achieve gender equality and empower all women and children
SDG 6: Ensure access to water and sanitation for all
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all
SDG 8: Promote inclusive and sustainable economic growth, employment and decent work for all
SDG 9: Build resilient infrastructure, promote sustainable industrialisation and foster innovation
SDG 10: Reduce inequality within and among countries
SDG 11: Make cities inclusive, safe, resilient and sustainable
SDG 12: Ensure sustainable consumption and production patterns
SDG 13: Take urgent action to combat climate change and its impacts
SDG 14: Conserve and sustainably use the oceans, seas and marine resources
SDG 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
SDG 16: Promote just, peaceful and inclusive societies
SDG 17: Revitalise the global partnership for sustainable development

To seize these opportunities, innovation is going to be a critical force for change. But what do we mean by innovation and how does it happen? A useful way to think about innovation is not as technology alone, but as the process by which ideas (from any source, old or new) are used in new ways and combinations for economic, social and or environmental gain. Thinking about innovation in this way points to a number of types of innovation that have relevance to the SDGs and the business community.

Technological innovation. Technological breakthroughs and applications that companies can use to deliver new products and services that address specific SDGs. This is often where most attention is given, but for this to deliver to the SDGs it inevitably needs to be coupled with and supported by the other types of innovations outlined below.

Organisational innovation. New organisational or production processes (which may be enabled by technological innovation) that allow existing products and services to be created in ways that address specific SDGs.

Business innovation. New business models that create new value for a company and its customers. Of particular relevance to the SDGs are business models created to share social or environmental value. This may involve technological and organisational innovations (as above) or social innovations (as below). This can take the form of new types of inclusive, ethical businesses or involve the mainstreaming of these values in existing businesses.

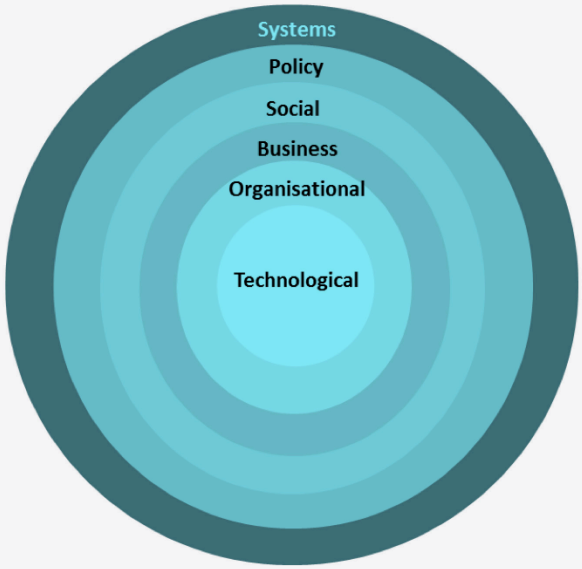


Figure 1: Layers of types of innovation

Social innovation. New relationships or social contracts between companies, value players (farmers, consumers, MSME suppliers and partners) and employees that create shared value, mutual support and collective decision making. These are increasingly common in agri-food value chains where the primary producers are smallholder farmers. They can also take the form of new governance arrangements in sub sectors, and value chains that allow greater representation of different stakeholder groups.

Policy innovations. Strategic choices and investments that specifically address SDGs. These can happen at the company level, where 'Good Growth' strategies are adopted (operationalised by some of the innovations above). It could also take place at the national policy level through regulation, incentives and investments that in turn encourage the private sector to invest in innovation aligned to the SDGs.

What does innovation look like and where does it come from?

Emerging from the recognition of the multiple types of innovation discussed above, it becomes clear that while technology has a critical role in innovation, it rarely acts alone. It is only when it is deployed within an individual company's business model, wider value chain or even at a national system or society level that it can deliver social, economic and environmental value relevant to the SDGs. This means that examples of SDG-relevant innovation and emerging opportunities cannot be explored from a purely technological perspective. Rather, it is more useful to describe SDG innovation and innovation opportunities in terms of **suites of integrated changes.**

While it is easy to see the role of individual entrepreneurs as being critical innovation players, in reality, innovation is a team sport requiring collaboration between companies and their business partners with wider civil society, public sector and policy players. This means that opportunities need to be explored through innovation networks rather than just focusing on individual nodes.

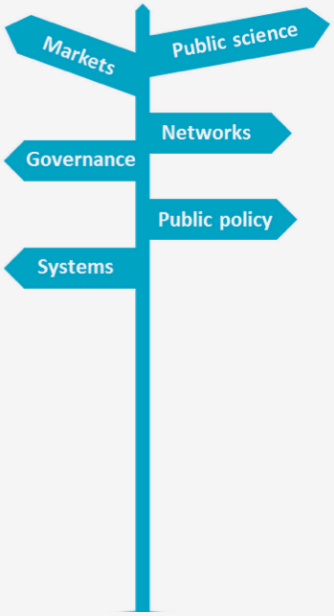
This is particularly important in relation to the SDGs where the social and environmental agenda will require deep systemic changes that cannot necessarily be achieved by individual companies alone, but require a more coordinated approach to innovation. In practice this means that while it is useful to explore innovation opportunities from the perspective of an individual company 'spearheading' a change, it is also important to understand **the wider network in which that company is embedded.**

Innovation does not happen in a vacuum. It is most often a response to drivers and triggers beyond the company itself. These may include technological breakthroughs, new sources of consumer demand, new policy directions and incentives, new sources of competition, environmental shocks and convergence of agendas of different stakeholder groups. Since drivers and triggers shape the direction of innovation, it is important to understand how these align towards the SDGs. In the same way, understanding current regimes of drivers and triggers helps explain existing dynamics of innovation and change in businesses, markets and in society more generally, and identifying where opportunities might exist for addressing SDGs. **This line of enquiry provides a picture of the emerging shaping context and trends of opportunities now and into the future.**

What prevents opportunities becoming realities?

The understanding of innovation not as technology per se but as an integrated process of change involving people, processes and policy also helps to identify some of the common bottlenecks that businesses face, and that affect innovation for the SDGs more generally. Innovation by definition involves doing things differently. Bottlenecks arise because long established ways of doing things create routines and lock-ins that prevent change. As Albert Einstein said, "The definition of insanity is doing the same thing over and over again and expecting different results".

Lock-ins can happen at the company level but also in the wider environment. Unlocking innovation opportunities means identifying these lock-ins and working out how to address them. Common bottlenecks include:



Public science lock-ins. Public research organisations can be a critical source of frontier ideas and technology relevant to the SDGs, of expertise to troubleshoot the application of these, and as a way of translating new ideas from the globalised science community. However, there is usually a poorly developed tradition of working with the private sector, meaning that links, partnerships and associated skills are often missing. This restricts the flow of ideas and makes science unresponsive to the needs of companies and to wider policy agendas. Finding ways to better mobilise public science for SDG-relevant innovation will be critical.

Market lock-ins. Large companies often have their own R&D capability (or resources to access this), business skills and customer information to continuously and incrementally improve their offering to existing markets in which they are lead or incumbent players. While these companies have scale and reach, it is more difficult for them to innovate with radically new products, services and value propositions relevant to the SDGs as this may involve the creation of new markets that challenge tried and tested business models. Recognising the comparative advantage of these companies as incremental improvers (rather than as disrupters) is important in thinking about different pathways to the SDGs.

Figure 2: Types of lock-ins

Business capacity lock-ins. Micro, small and medium sized enterprises (MSMEs) are critical drivers of innovation in most economies as they have the flexibility and entrepreneurial drive to try new ideas and challenge existing markets with new products, services and value propositions. These companies could be a critical source of innovation relevant to the SDGs. However, they often lack R&D and business capability, have weak or absent links to public research organisations, industry players and policy, and struggle to access finance to grow their businesses. Finding ways of providing support to these companies and better networking into the wider business and policy landscape will be critical for SDG innovation.

Network lock-ins. Business and other linkages and alliances reflect existing markets and historical patterns of innovation networks developed over many years in the pre-SDG era when social and environmental concerns were given less emphasis. The "out of the box", disruptive innovations needed to address the SDGs will often require a remapping of innovation networks.

Governance lock-ins. Innovation has a pace, but also a direction and this is largely determined by the agenda of dominant stakeholders. Representation of different stakeholders in sector and industry level decision-making and strategic choices vary from country to country and between different industrial sectors. While consultation and fore-sighting mechanisms increasingly include private players, for historical and logistical reasons these tend to be dominated by large incumbent actors. Expanding representation in governance arrangements is important to develop cross-society buy-in, diversity of perspectives and expertise, and collaboration in the deep systems innovations needed for the SDGs.

Public policy lock-ins. The respective roles of public and private sectors are often framed by market failure arguments. However, innovation is typified by uncertainty. This means that it is important for the public sector to bear the risk of driving innovation even in domains where the private sector will later invest and reap rewards. A challenge for innovation in many industrial sectors is that investment risks and uncertainty are too great for individual businesses, yet the public sector discounts its own investment because of closeness to market interests. Unlocking private sector innovation for the SDGs will require more clarity on these respective roles and a more proactive investment by the public sector in areas of transformative innovation that the private sector can invest in. Examples include science and technology, new technology infrastructure, coordination and stakeholder alignment mechanism, and infant industry incubation facilities and policies.

In addition to lock-ins there are also lock-outs that prohibit innovation. These are:
"Know how" lock-outs. Insufficient technical knowledge in an industry or sub-sector (such as food and agriculture) about a core technology and how to apply it to solve problems or create new value.

"Know who" lock-outs. Insufficient ability to acquire "know how" on the development and application of a core technology through personal and professional relationships and networks.

Market lock-outs. SMEs have the potential to disrupt markets (often through partnership with established players), but often lack R&D and business capability, have weak or absent links to public research organisations, industry players and policy, and struggle to access finance to grow their businesses.

Figure 3: Types of lock-outs

Pre-competitive lock-outs. Innovation often requires broad collaboration on a range of issues before an individual company can introduce an innovation into the market. This may include collective advocacy for regulator change or infrastructure development. It may also involve pre-competitive research by industry clusters on specific platform technology or value chain wide enabling technology such as agreed standards, shared information platforms or market information systems.

What did the survey tell us?

This survey was exploratory and its results need to be viewed as preliminary. As only 16% of respondents who completed the survey were from Southeast Asia, the results do not provide significant contextual detail for the region. It is also worth remembering that the survey respondents for this sort of survey are often self-selecting and therefore the results to a degree are focused on businesses that have in some sense "drunk the SDG Kool-Aid". Nevertheless, given that the purpose of the survey was to identify broad trends and issues that warrant further investigation and discussion, it appears to have served its purpose.

MAIN PATTERNS AND TRENDS

The SDGs are part of the agenda of many businesses. The broad picture, perhaps not surprisingly, is that the SDGs are well and truly on the radar of businesses working in Southeast Asia when they think about innovation and creating new products and services. Around 61% of companies surveyed indicated that they are currently implementing an SDG-related initiative or that they are planning to in the near future. Many companies believe the activities are aligned, often to a high extent, to one or usually multiple SDGs. For obvious reasons businesses in the agriculture and food industry in Southeast Asia are aligned most strongly to SDG 2 (Ending hunger) and SDG 12 (Ensuring sustainable production and consumption). However, as with other business sectors, alignment with other cross cutting SDGs, such as SDG 5 (Achieving equality) and SDG 17 (partnerships for the goals) are also apparent.

Innovation drivers for business are in step with the SDGs. When the reasons of this alignment are examined it quickly becomes apparent that many of the drivers of innovation are very much in step with the intentions of the SDGs. There are certainly marked differences between different sectors and companies of different sizes. Nevertheless, many companies give almost the same weighting to "social license to operate" (particularly important in the food, beverage and agriculture sector) "sustainability of the supply base" and "creating shared value" as they do to "creating new markets" and "competition from other businesses". It is telling that in the food, beverage and agriculture sector, maintaining market share was the factor most indicated as not encouraging innovation. This may suggest (and other responses confirm this) that it is the possibility of creating new markets in step with the SDGs that is driving innovation.

SDG drivers and business drivers are starting to overlap. The business drivers indicated by respondents are close cousins of innovation drivers and again many are in step with the intentions of the SDGs. Transparency of business practices, supply chain integrity, and collaboration with other businesses are seen as strong business drivers in the food, beverage and agriculture sector. Competition with other businesses and maximising profits are unsurprisingly flagged as strong business drivers. What is perhaps more surprising is that these are flagged as equal importance as drivers aligned with the SDGs.

R&D support for innovation is mainly in-house. The food, beverage and agriculture sector and the other sectors acknowledge that R&D support comes from a number of different sources: in-house, universities and public agencies in the region, business partners and private technology advisory services. However, in terms of what is considered the most important sources of R&D, the food, beverage and agriculture sector indicates that it is in-house R&D that is most important, with other sources not indicated as important at all. It is a similar story with respondents from other sectors, although small numbers of respondents indicated that public research agencies and private technology service providers were the most important source of R&D. While information on this point was a little thin in the responses from the survey, it seems unlikely that micro, small medium sized enterprises (MSMEs), particularly in the food, beverage and agriculture sector, have extensive in-house R&D capability (this is discussed in greater detail below). However, perhaps the number of large, life science-based agri-businesses surveyed skewed this finding.

Different types of innovation are important, but policy innovation is more so. When discussing new or planned SDG initiatives, businesses indicated policy innovation to be the most important. Other forms of innovation (technology, organisational, business and social innovation) were close behind and were viewed as about of the same importance. The survey did not collect information on what types of policy innovation were valued by businesses, but given its importance it would be worth investigating further. A more general observation from the survey is that new technology seems to be either underplayed or at least viewed only as part of the SDG story.

Consortium or platform a major implementation modality for SDG initiatives. Partnerships of various forms feature largely in the way companies indicate they are implementing new or planned SDG-facing initiatives, with only a very small number of businesses indicating that they can go it alone. By far the most important implementation modality mentioned is consortia and platforms. Given the points above about sources of R&D, it is notable that only 13% of businesses indicate that public research organisations are important collaborators in SDG-aligned activities.

Key innovation challenges relate to public policy and enabling environment. Innovation challenges highlighted by businesses indicate some nuanced differences between sectors and between large and small companies. However, the standout challenges point to issues in the public policy environment. Of particular importance were the lack of partnership with policy-makers and other public agencies and a constraining public policy and regulatory environment. In the food, beverage and agriculture sector MSMEs' access to technology was flagged as a critical constraint. This once again suggests that public investments in R&D are not translating into technology access for MSMEs. More familiar MSME challenges such as access to finance and creating new markets for novel products were also indicated as critical. These issues are not unique to SDG-aligned business innovation, but a deeper public policy challenge of tailoring support to the MSME sector.

OPPORTUNITIES

Where are the emerging SDG innovation opportunities? In terms of pointing to some concrete SDG innovation directions ahead, the survey results were disappointing. The assumption in the survey was that insights would be gained on specific technology or business applications that had been visioned but remain out of reach. This was perhaps a naive or at least optimistic assumption. In response to questions on opportunities, the few businesses that did respond hinted that the opportunity ahead concerns building effective mechanisms to get businesses, governments and civil society organisations working together in meaningful and effective ways. This almost seems a truism, given widespread rhetoric on the public-private partners and SDG delivery. Perhaps the message from this is that despite the rhetoric, effective mechanism partnerships that deliver results have yet to really solidify.

Is the food, beverage and agriculture sector different? There seem to be many similarities between SDG innovation experiences in the food, beverage and agriculture sector and those of other sectors. However, the survey results suggest some differences that are worth considering. By and large, the food, beverage and agriculture sector features:

- Businesses aligned to a smaller range of SDGs, although with greater coverage in MSMEs
- Broadly similar innovation drivers, but with social licence seen as highly important
- Less well connected to external sources of R&D and technology
- No unique innovation challenges, but access to technology and lack of partnership with other organisations particularly important

Major differences between large and small businesses. There are noticeable differences between large and small businesses. The survey results hint that MSMEs are aligned to a larger set of SDGs than larger businesses. This is certainly the case in the food, beverage and agriculture sector. More generally, the differences observed do not relate to SDG innovation per se, but a more generalised set of issues related to innovation performance in businesses of different scales. As already discussed this is particularly apparent in terms of innovation challenges businesses face. For example, large businesses seem fairly self-contained in terms of R&D/ technology, and access to finance, and seem to feel comfortable about taking risks in creating new markets — the main challenges they flag as critical are in the policy and regulatory environment. MSMEs, on the other hand, in line with their scale and resources need much more support in the whole process of innovation, developing new products and services and bringing them to market.

Reflections and information gaps

The quote below encapsulates many of the trends and sentiments of the survey results. Solutions are available, a multi-goal approach is required, but it is going to require a fundamentally different type of alliance between businesses governments and civil society if progress is to be accelerated.

"There are almost unlimited possibilities to create sustainable, liveable and healthy communities, if governments, industry and civil society work together to implement the solutions that are already available to ensure that we reach SDG goals 6 and 7. These goals are in many ways overarching the other goals as they are prerequisites for achieving healthy life, eliminating poverty and illiteracy and for reducing the man-made changes to eco-systems, nature and climate. If we cooperate on achieving the SDGs, we will be able to achieve the goals. The benefits for our company will be increased sale of sustainable solutions, better reputation and most of all a better world for ourselves and the next generations."
- Anonymous respondent's reflection on opportunities ahead.

The following reflections unpack this and flag information gaps that seem to need attention.

The stage is set. Overall the results of this survey suggest that the stage is set for business innovation to make important contributions to the delivery of the SDGs. The food, beverage and agriculture sector has a critical role to play in this, especially the MSMEs. Driving this is not the SDGs per se, after all these have not had time to play out as a guiding force. Instead it appears the drivers of innovation and wider business drivers are starting to reflect the values of society and therefore the market demand for more sustainable and ethical products and services. This is a demand that has been building up for a number of years. The SDGs are a rallying cry for these values. However, it is the societal values that businesses are sensibly responding to as well as new opportunities that ideas like shared value are presenting.

The market is key, but what else is needed? If the SDGs themselves are going to become major innovation and business drivers, something beyond the market is going to need to happen. This may be why the survey has highlighted the critical importance of policy innovation SDG-facing initiatives. Getting a better understanding of what these policy innovations look like and identifying which ones are effective in directing business innovation towards the SDGs would seem an important step in creating the conditions businesses need to respond more fully to the SDG agenda. Alternatively, how could society's appreciation and demand for sustainable and ethical goods and services be galvanised and accelerated? This implies a major transition in business practice, technology, markets and policy settings. What are the pathways for that transition and what might public and private sector roles and investments look in that process?

What policy environments could help? While the stage has been set for innovation and business to contribute to the SDGs, the survey suggests that there are many issues that need to be tackled. Policy and regulation is almost universally seen as a debilitating constraint as are missing relationships with policy makers and public agencies. Some of these constraints are going to be country and sector and even business-specific. Nevertheless, it would still be useful to get a much better understanding of what is getting in the way of more productive relations between business and policy and public agencies more generally. What would an SDG-friendly, innovation-friendly and business-friendly policy environment look like?

What makes SDG innovation multi-stakeholder engagement effective? The survey hints at the absence of (or perhaps the need for more) effective mechanisms to get businesses, governments and civil society organisations working together in more meaningful and effective ways. Understanding how effective arrangements work not only needs more investigation, but it is also a critical question as business and public agencies agendas are tied to the rhetoric that these arrangements can deliver for both business and SDG agendas.

MSME innovation needs more attention. The survey hints that MSMEs could be a source of a diverse range of goods and services aligned to multiple SDG goals. It would be worth verifying this, as a multi-goal approach aligns well with the joined up, win-win thinking behind the SDGs. The survey also makes it quite clear that MSMEs aligned to the SDGs are like any other set of MSMEs: unconstrained in terms of novel ideas, but highly constrained by lack of access to technology, finance and other support services and vulnerable to the risks of launching products and services into untested and undeveloped markets. Are there really killer SDG business ideas out there in the MSME world? What are they? And, more importantly, what mix of public and private investment and support can ensure that they don't die on the vine?

Why isn't more use being made of public science and technology? The survey gives a strong impression that public research organisations and technology are barely on the radar of businesses and their innovation activities. This is all the more surprising given the abundance of public research organisations and investments in the region and globally. This seems like a missed opportunity. Perhaps these weak links to public research are why many companies report that only half their innovations rely on new technology with the rest based on organisational innovations, social innovations and business model innovations. Different parts of the public sector are investing in both research and in enterprise development. So, perhaps the challenge of business innovation for the SDGs is actually a more general issue of the effectiveness of innovation policy? It would be valuable to have a better understanding of how public policy support to innovation affects SDG ambitions, and how a more proactive public policy position on innovation support could be nurtured. A key message here is that sharing the burden of innovating to delivering the SDGs with the business community does not absolve public policy from it wider responsibilities of proactively investing in the conditions needed for innovation to thrive.

Is enough known to inform decision-making? A simple survey of the sort conducted can point to the broad trends discussed. However, to better understand how opportunities for SDG aligned business innovation could be advanced, a deeper exploration of some of the issue raise is certainly required. The poor response to this survey in Southeast Asia suggests relevant information is not necessarily easy to generate and it is certainly not the sort of information that is available in published statistics. Yet without a better picture of the scope of opportunities currently being missed, a better diagnosis of bottlenecks and a sense of what mix of practice and policies are proving effect, it is going to be difficult for either businesses of policy agencies to make decisions going forward.

Annex 1: Survey results

SECTION 1: WHO WAS SURVEYED?

Questions:
What sector does your organisation work in and where are your company headquarters?

Figure 4: Survey responses by Sector

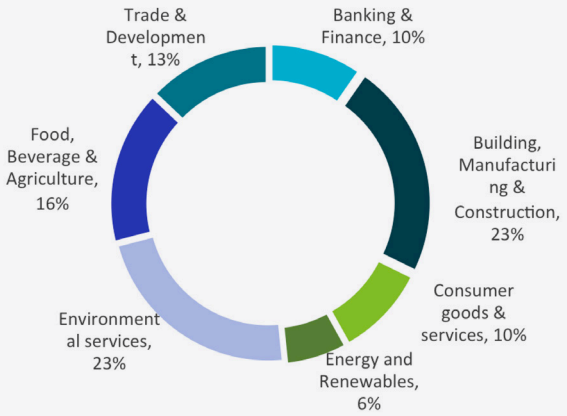
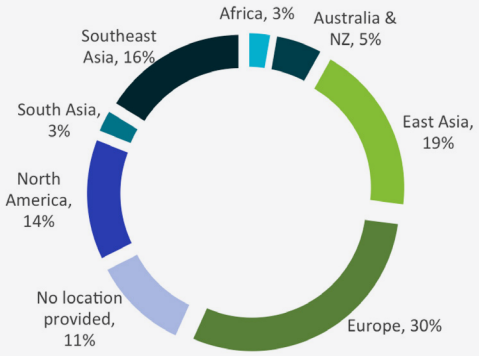


Figure 5: Survey responses by Region



Observations

- All survey respondents are part of the RBF network
- 38% of respondents identified their office as being located in Asia
- Agriculture and food respondents make up a relatively modest 16% of the total, with the largest proportion of respondents (23%) from the environmental services sector.

SECTION 2. BUSINESS ACTIVITY ALIGNMENT TO SDGS

Questions:
Which SDGs do your business activities contribute to?

Figure 6: How the private sector reported they are contributing to the SDGs (includes aligned and highly aligned responses)

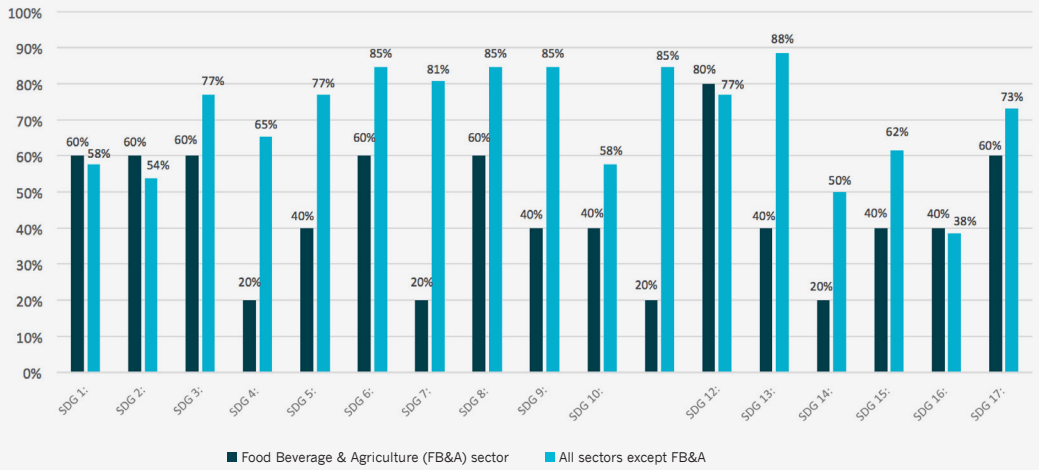
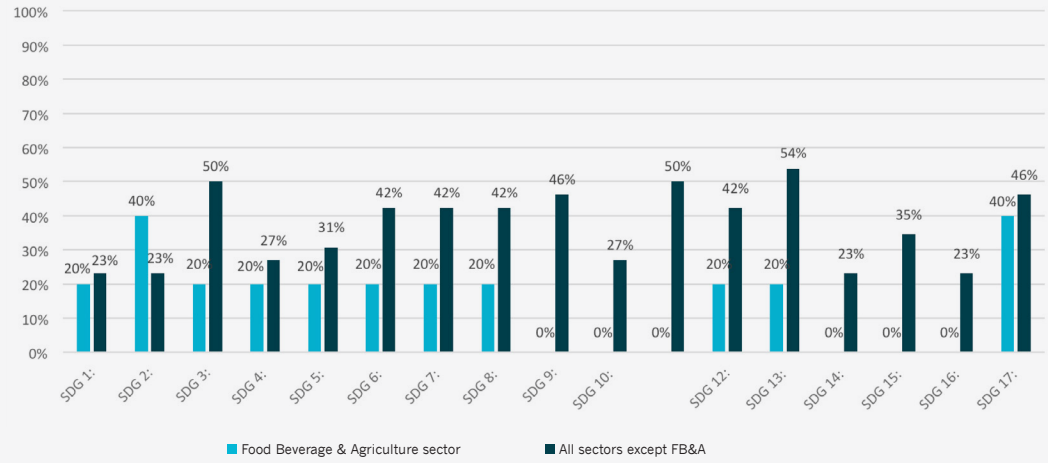


Figure 7: How the Food, Beverage and Agriculture private sector reported they are contributing to the SDGs (includes highly aligned responses only)



Observations

- Most respondents reported alignment with multiple SDGs
- Responses from the food, beverage and agriculture sector showed significant differences in the alignment of initiatives with SDGs for MSMEs and large enterprises
- Large enterprises reported high alignment with four goals (SDG 2 Zero Hunger, SDG 5 Gender equality, SDG 12 Responsible Consumption and Production, SDG 13 Climate Action and SDG 17 Partnerships for the Goals), whereas the MSME respondents reported high alignment with 8 goals (twice as many).
- Of the 8 goals the MSMEs reported high alignment with only two of these were the same as the large enterprises (SDG 2 Zero Hunger and SDG 17 Partnerships for the goals)

Annex 1: Survey results

SECTION 3: SDG INNOVATION TRIGGERS AND DRIVERS

Questions:

To what degree are changes in the business environment driving or encouraging innovation in relation to your businesses contribution to the relevant SDGs?

Figure 8: Comparing reported very strong business drivers

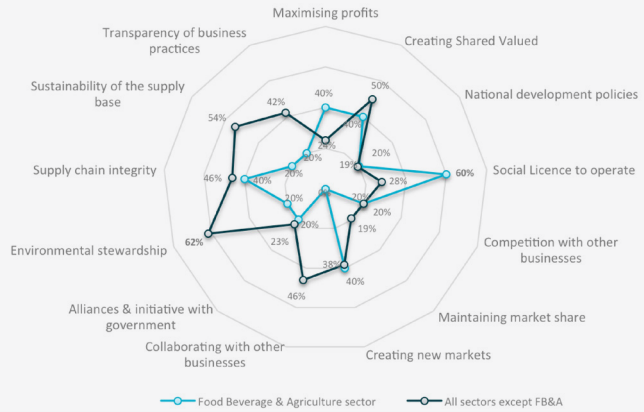
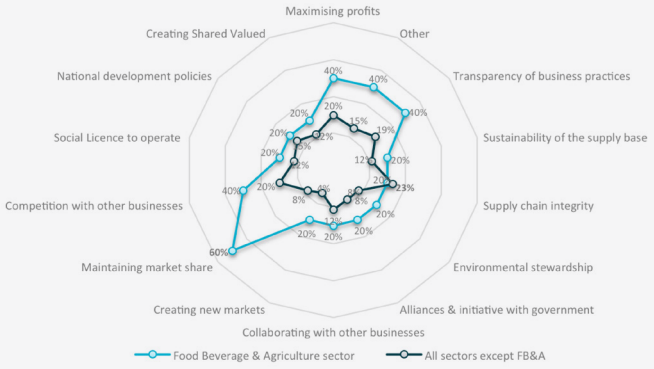


Figure 9: Comparing reported business drivers not encouraging innovation



Observations

- Most respondents (60%) from the food, beverage and agriculture sector identified Social Licence to Operate as a very strong driver. Creating shared value, creating new markets and maintaining supply chain integrity were indicated as strong drivers by 40% of the food, beverage and agriculture sector respondents
- In other sectors, Environmental stewardship was the standout driver (62% of respondents), followed by sustainability of the supply base (56%), creating shared value (50%) and collaborating with other businesses (46%),
- A large number of respondents (60%) from the food, beverage and agriculture sector identified Maintaining market share as a driver not encouraging innovation. This was followed by competition with other businesses and maximising profit (40% of respondents)
- Note 40% of respondents from the food, beverage and agriculture sector reported Sustainability of the supply base as a driver not encouraging innovation, but 54% of respondents from other sectors reported Sustainability of the supply base as a key driver for innovation (this is the second most number of people).
- There was no stand out factor that was not encouraging innovation in other sectors.

Questions:
How important are the following business drivers to your business?

Figure 10: Reported degrees of importance for different business drivers for the Food, Beverage and Agriculture sector

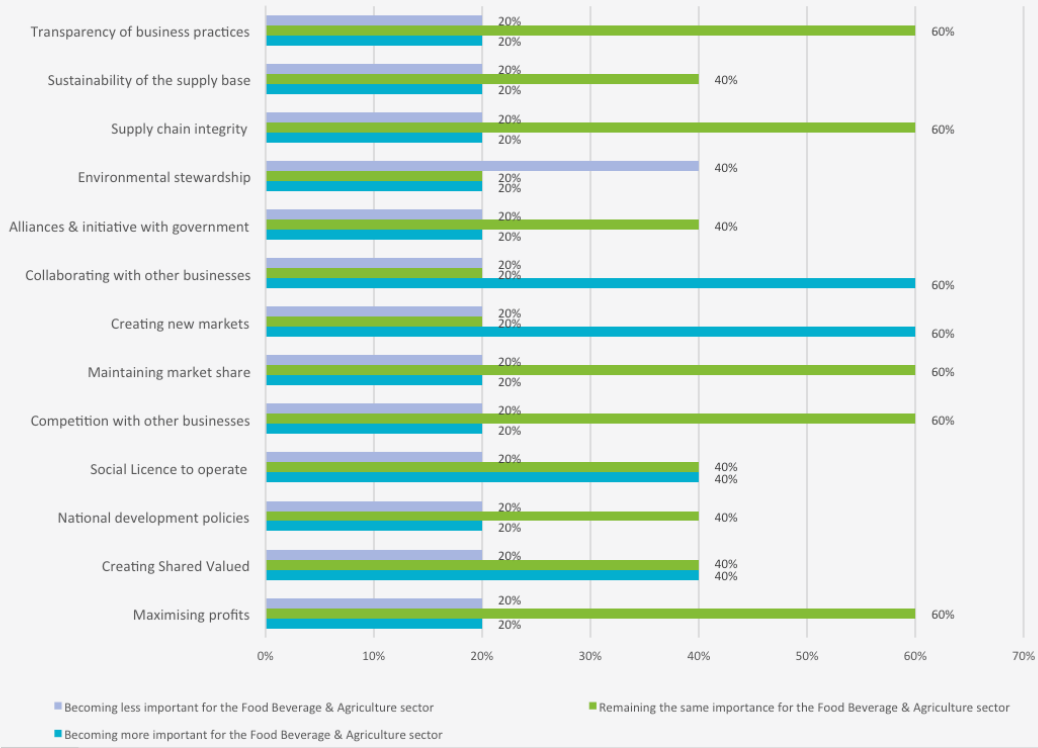
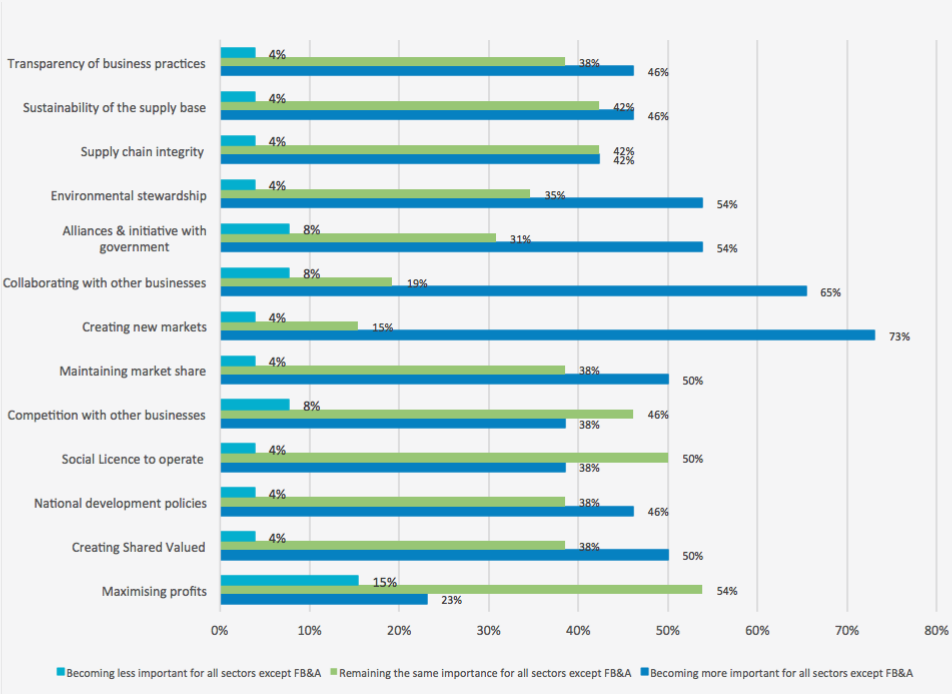


Figure 11: Reported degrees of importance for different business drivers for all sectors other than the Food, Beverage and Agriculture



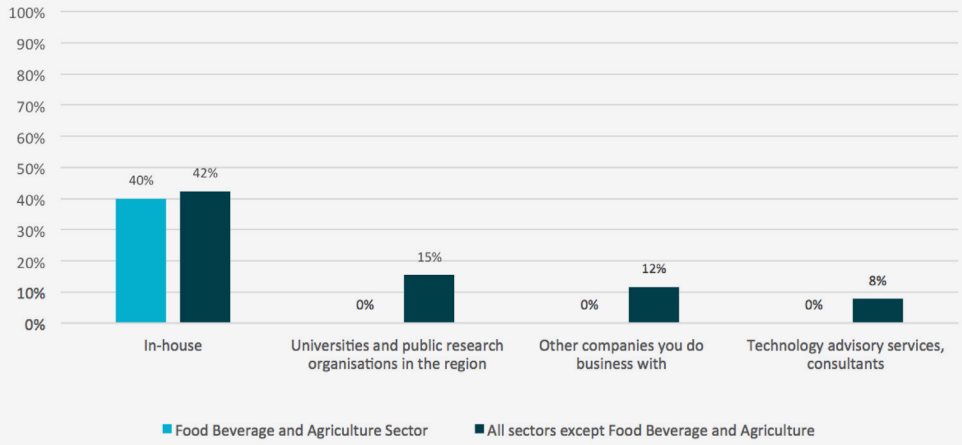
Annex 1: Survey results

SECTION 4: SOURCES OF INNOVATION SUPPORT AND EXPERTISE

Questions:

How important are different sources of R&D expertise to your business for innovation?

Figure 12: Reported very important sources of R&D for the private sector's business sustainability



Observations

- In general respondents from the food, beverage and agriculture sector recognised the importance of all four different sources of R&D.
- However, this is a different story when looking at the percentage of respondents that reported what they considered as very important sources of innovation, where in-house R&D is indicated to be the most important source of R&D (40%). It is a similar story for responses from all sectors (43%).
- Small numbers of respondents (less than 15%) indicated that public research agencies and private technology service providers were the most important source of R&D.

SECTION 5: CURRENT SDG INITIATIVES

Questions:

Are you currently implementing an SDG-related initiative or planning to implement one in the near future?

Figure 13: Responses to if the organisation currently has an initiative contributing to the SDGs

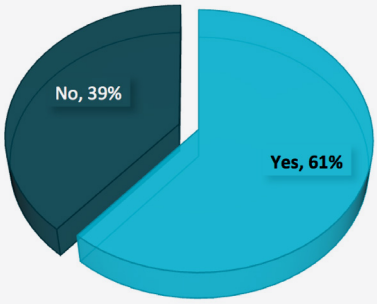


Figure 14: Key words from the descriptions of reported current initiatives

Table 1: Descriptions of reported initiatives

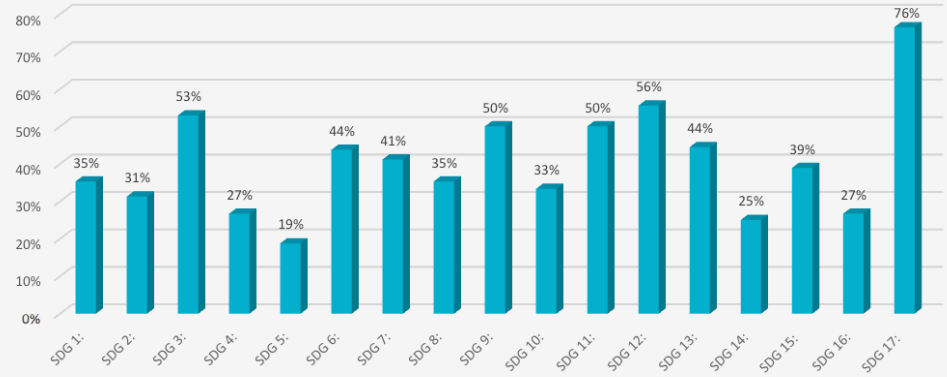
We believe we can make a difference on a personal level by enabling smallholders to add value and increase revenue. At a macro level our pioneering disruptive technology will have a measurable impact on food loss, sustainability, carbon reduction, resource utilisation and poverty alleviation. Many of the SDGs are interlinked. Improving income levels delivers better education, nutrition and gives options that otherwise would not be available. A growing economy drives tax receipts, which in turn funds a more socially cohesive society. The "VALUE" of our technology goes far beyond monetary considerations. That said, creating shared value is a positive outcome shared by the collaborating partners. Developing a new business model is fundamental to making our technology accessible to those who would benefit most.
Creating financial instruments to aggregate investment opportunities for distributed RE deployment. We facilitate collaboration within the eco-system of investors, service providers and users, thus creating opportunity for all, sharing value in the value chain.
SDG: Industry, Innovation and Infrastructure We're building resilience across our organisation and supply chain, particularly in response to environmental disruptions. For example, ensuring our services and people are not impacted by earthquakes such as is happening in New Zealand at the moment.
Valuing ecosystem services in business decision making as part of our 2025 Sustainability Goal on Valuing Nature, aligned with SDG 15. This will create USD 1 billion in value by 2025.
Fresh, clean and well-treated water is a basic element of civilisation; vital for agriculture and important for industries. As the world's most water-focused AC drive company, we have a thorough understanding of all water-based applications and processes. We provide AC-drive solutions that improve process control, water quality and asset protection, reduce energy and maintenance costs, ensure higher reliability and performance, and increase the sustainability of water usage. Typically, water and wastewater treatment processes account for 25–40% of a municipality's electricity bill and are the equivalent of 8% of global electricity consumption. Water and wastewater facilities are therefore normally the single-largest electricity consumer for a municipality. With extensive use of AC drives, energy-efficient components and real-life online process control combined with energy production based on the methane from a wastewater plant's digester, the first full-scale facilities are now in operation on a completely energy-neutral basis. This is obtained without adding external carbon. The energy neutrality covers the whole water cycle, from water production and distribution to wastewater pumping and treatment. The energy used in the water distribution system typically represents 60–80% of the total energy consumption for the whole water supply system. By adapting the pressure to the real need using pressure zones and boosting pumping stations, energy savings of 25–40% can be achieved. At the same time, water leakage can be reduced by 30–40%.
In Foods, to help tackle Goal 2 (zero hunger), our company (a multi-national food company) is continuing its long-term partnership with the World Food Programme. It aims to improve global access to nutritious food by nourishing the lives of adolescents, particularly girls, so that they can transform their own futures. Our company is also committed to helping farmers implement sustainable farming practices to improve their yield and protect their land, in line with Goal 15 (life on land).
Our company's products and technologies (video conferencing and related services) help people defy distance to unleash the power of human collaboration. As a result, Polycom will focus on Goal 17 Partnerships to empower the platform to mobilize and collaborate across any distance, border, or device, and find solutions for action around all the SDGs.
Our company is committed to developing, designing and manufacturing of solar photovoltaic modules, which provides clean and renewable solar energy. Our mission is to "Benefit Mankind with Solar Energy".
Working with NGO partners on nutrition & sustainable agriculture production

Annex 1: Survey results

SECTION 6: INNOVATION AND YOUR CURRENT SDG INITIATIVES

Questions:
Which SDG(s) does the initiative described above align with?

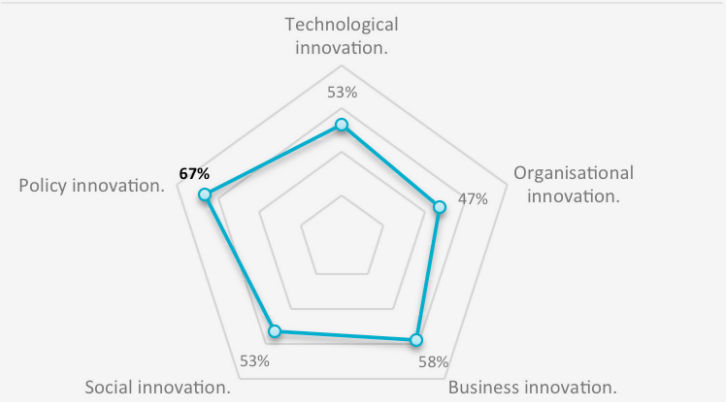
Figure 15: Reported current initiatives that were identified as highly aligned with particular SDGs



Observations
- Most respondents reported that their current SDG initiatives were most highly aligned to SDG 17 (partnerships for the goals), 20% more than any other SDG
- This is different to other cross cutting SDGs like SDG 5 (Gender Equality) which had the least number of respondents (19%) reporting that their current SDG was highly aligned to it

Questions:
How important are the following types of innovation to the initiative described above?

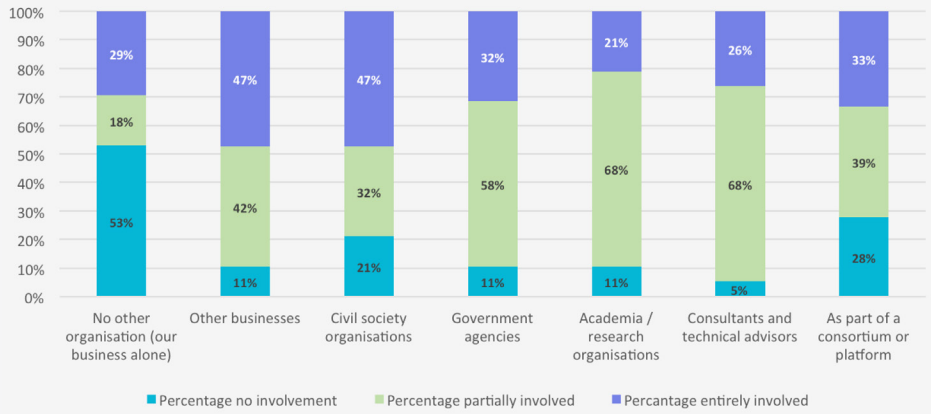
Figure 16: A comparison of different types of innovation reported as critical to current SDG initiatives



Observations
- Policy innovation was rated as the most critical to current SDG related initiatives by 67% of respondents.
- Other forms of innovation were indicated to be critical by broadly equal numbers of respondents.

Questions:
Which SDG(s) does the initiative described above align with?

Figure 17: Reported degrees of engagement with different organsiations to implement current SDG initiatives



Observations
- Civil society and other businesses are the types of organisations most involved in partnerships to deliver reported SDG current initiatives (47%)
- 53% respondents indicate that they are implementing the SDG initiatives on their own
- For organisations partially involved in SDG initiatives 68% of respondents indicated academia/ research organisations and consultants and technical advisers are involved in implementing current SDG initiatives

SECTION 7: UNREALISED SDG INNOVATION OPPORTUNITIES & CHALLENGES

Questions:
When you think about the future, what are the SDG opportunities you foresee for your company, sector or industry?

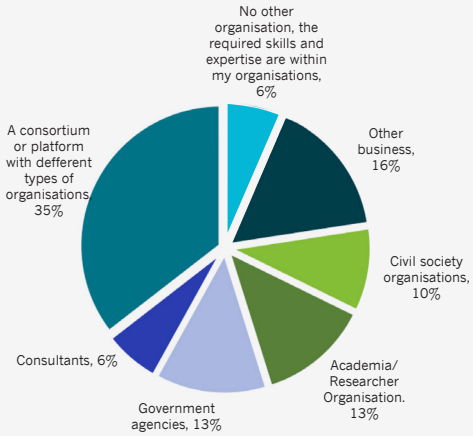
Figure 18: Key words from the descriptions of reported foreseen SDG opportunities for businesses

Table 2: Reported foreseen SDG opportunities

Lower energy cost, better food supply, providing to areas of need
Good hygiene and sanitation, zero waste, clean and green environment
We are focused on making our technology as widely accessible as possible to contribute to as many SDG's as possible and see this as core to our long term strategy
Opportunities to making good future happens.
We seek to create massive collaborative efforts that are centred around SDG outcomes, that are open for participation by interested stakeholders (one could say that we want to create outcome-centric initiative and NOT entity-centric initiatives.
I foresee an increased focus on the SDGs from all my customers, companies and organisations alike.
Climate action and responsible production and consumption. Because this automatically reduces our risk profile further.
Renewable Energies and Green Building
Education, engineering of systems, construction of systems
Sustainable infrastructure which leads to sustainable development.
Very important as viewed by so many businesses as relevant and important to their future prosperity.
Business at the Base of the Pyramid
New business markets
Sustainable market and consumption
Partnership
Many of the business activities are aligned to the goals in some way. However they are not necessarily being called out as an SDG initiative. I think there is opportunity for the industry and the organisation to identify the links to the goals and make these meaningful so that we can see the connections back to the global picture. Also if actors link together around the goals and challenges we can achieve greater progress in that area and be more targeted in how the industry responds to those particular issues
There are almost unlimited possibilities to create sustainable, liveable and healthy communities if governments, industry and civil society work together to implement the solutions that are already available to ensure that we reach SDG goals 6 and 7. These goals are in many ways overarching the other goals as they are prerequisites for achieving healthy life, eliminating poverty and illiteracy and for reducing the man-made changes to eco-systems, nature and climate. If we cooperate on achieving the SDG's, we will be able to achieve the goals. The benefits for our company will be increased sale of sustainable solutions, better reputation and most of all a better World for ourselves and the next generations.
Sustainable ecosystems that address multiple SDGS built between our business, consumers, competitors, government, other sectors and industries.
Building affordable, energy efficient cars that will be available to as many people as possible
Primary focus is around enabling collaboration and partnerships. But Polycom technologies contribute to advancing human rights such as access to education, healthcare and other public services.
Clean Solar Energy Development
Yield intensification

Questions:
To achieve these opportunities which of the organisation(s) listed below are important collaborators?

Figure 19: Reported collaborators needed to achieve foreseen opportunities

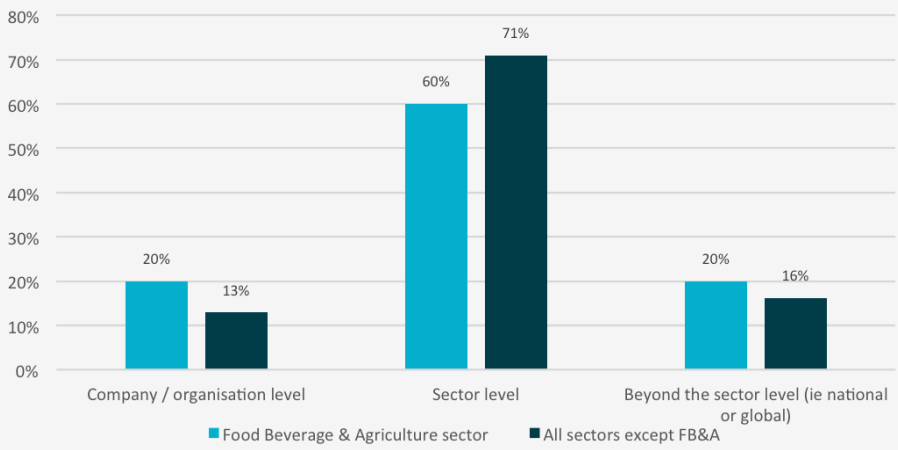


Observations

- 35% of respondents reported that consortiums are the type of partnership needed to realise opportunities, whereas current partnerships primarily focus on collaborations with other businesses and NGOs only
- Only 6% of respondents reported that they thought the opportunities can be achieved through their organisation alone, compared to 53% of respondents reporting that current SDG initiatives involved various modes of collaboration.
- Only about a third of the initiatives are working with consortiums or platforms of different actors
- Almost 50% of respondents reported working entirely with other businesses and civil society organisations to implement their current initiatives and an additional 42% and 32% (respectively) of respondents reported partially involving these organisations in current initiatives
- Government (68%), academia (68%) and consultants (58%) were mostly reported as being partially involved in the implementation of current initiatives.

Questions:
At what level do you think these opportunities will lead to innovation and impact?

Figure 20: Reported perceptions of opportunities by level of scale



Questions:

How important do you think the following innovation challenges are for your company in relation to the SDGs?

Figure 21: Reported debilitating challenges for MSMEs

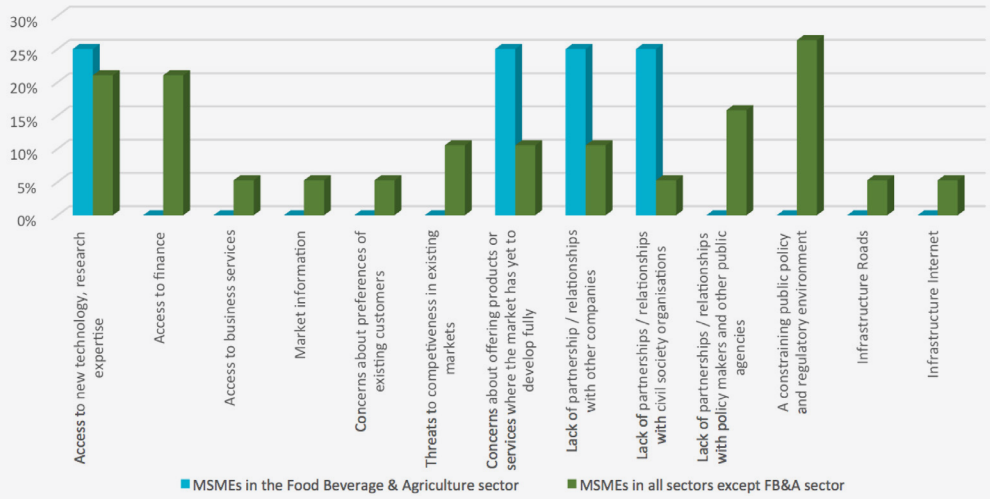
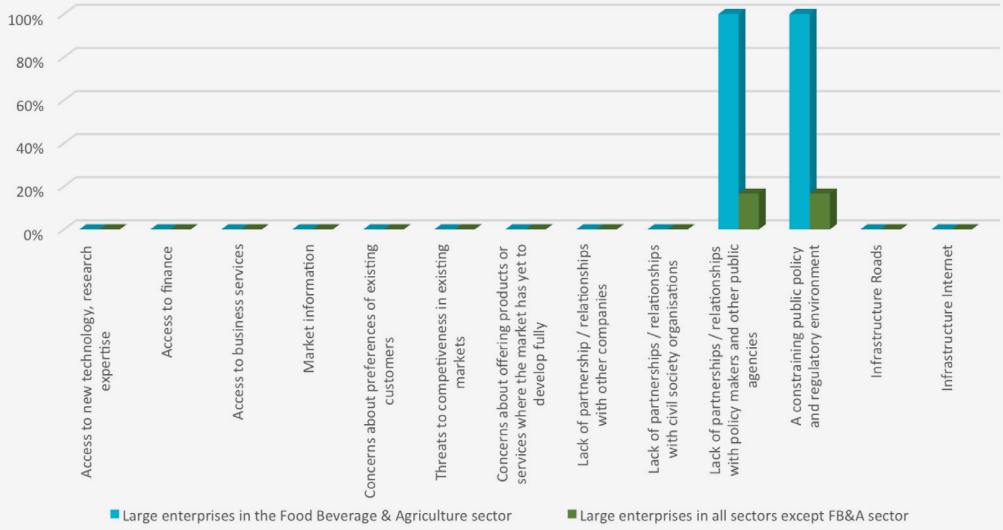


Figure 22: Reported debilitating challenges for Large Enterprises



Observations

- Large differences in debilitating challenges for MSMEs and large enterprises and notable differences in debilitating challenges between MSMEs in the food, beverage and agriculture sector compared with other sectors

- For large enterprises in both the food, beverage and agriculture sector and in other sectors the only debilitating challenges reported were: Lack of partnerships/ relationships with policy makers and other public agencies and a constraining public policy and regulatory environment.

- MSME respondents in the food, beverage and agriculture sector reported four different challenges as debilitating:
  - Access to new technology, research and expertise (26%)
  - Concerns about offering products or services where the market has yet to develop fully (26%)
  - Lack of partnerships/ relationships with other companies (27%)
  - Lack of partnerships/ relationships with civil society organisations (27%)

- MSMEs in the food, beverage and agriculture sector noted the following debilitating challenges as significant unlike MSMEs in other sectors:
  - Lack of access to finance (27%)
  - Lack of partnerships/ relationship with policy makers and other public agencies (20%)
  - A constraining policy and or regulatory environment (25%)

Annex 2: Roundtable discussion summary

The findings contained in this report were presented at a round table discussion at the Responsible Business Forum on Food and Agriculture, held in Jakarta in March 2017. Approximately 25 participants attended this meeting with representatives from businesses, academia and civil society. The presentation prompted a lively discussion and raised many issues that would benefit from deeper analysis. The main themes of this discussion were as follows:

1. **The need for a fine-grained understanding of the business-led innovation landscape, drivers and challenges.**
   The report provides a broad-brush picture of business–led trends, drivers and challenges based on an e-survey data set. However there are clearly limitations to a study of this type: for example, the relatively poor response rate from local companies in the South East Asia region, the small size of the sample and as a consequences the difficulty in disaggregating information from different types of companies to give a nuanced picture of how innovation patterns are playing out in different parts of the business community. These limitations were discussed, with participants highlighting a number of contradictory and surprising results. The conclusion reached was that while e-surveys (with some refinement) of this sort can indicate broad trends, to understand what these trends really mean and to understand how these are playing out in different business contexts, a deeper analysis is required. This, it was suggested, requires face to face interviews and qualitative research methods to better understand the innovation and business processes at play. Its also needed to get a better understanding of the innovation opportunities that companies can imagine but can not achieve. This was the weakest point of the survey responses.

2. **Relationships, partnerships and collaboration.**
   The discussions mirrored much of the report findings that suggest that partnerships are important for innovation, yet partnerships remain a challenge to operationalize for many businesses. A number of missed opportunities that arise from this where discussed.

- Large companies could partner more with SMEs that have great ideas, helping them access funding and supporting their capacity to create business opportunities that larger companies can also benefit from.

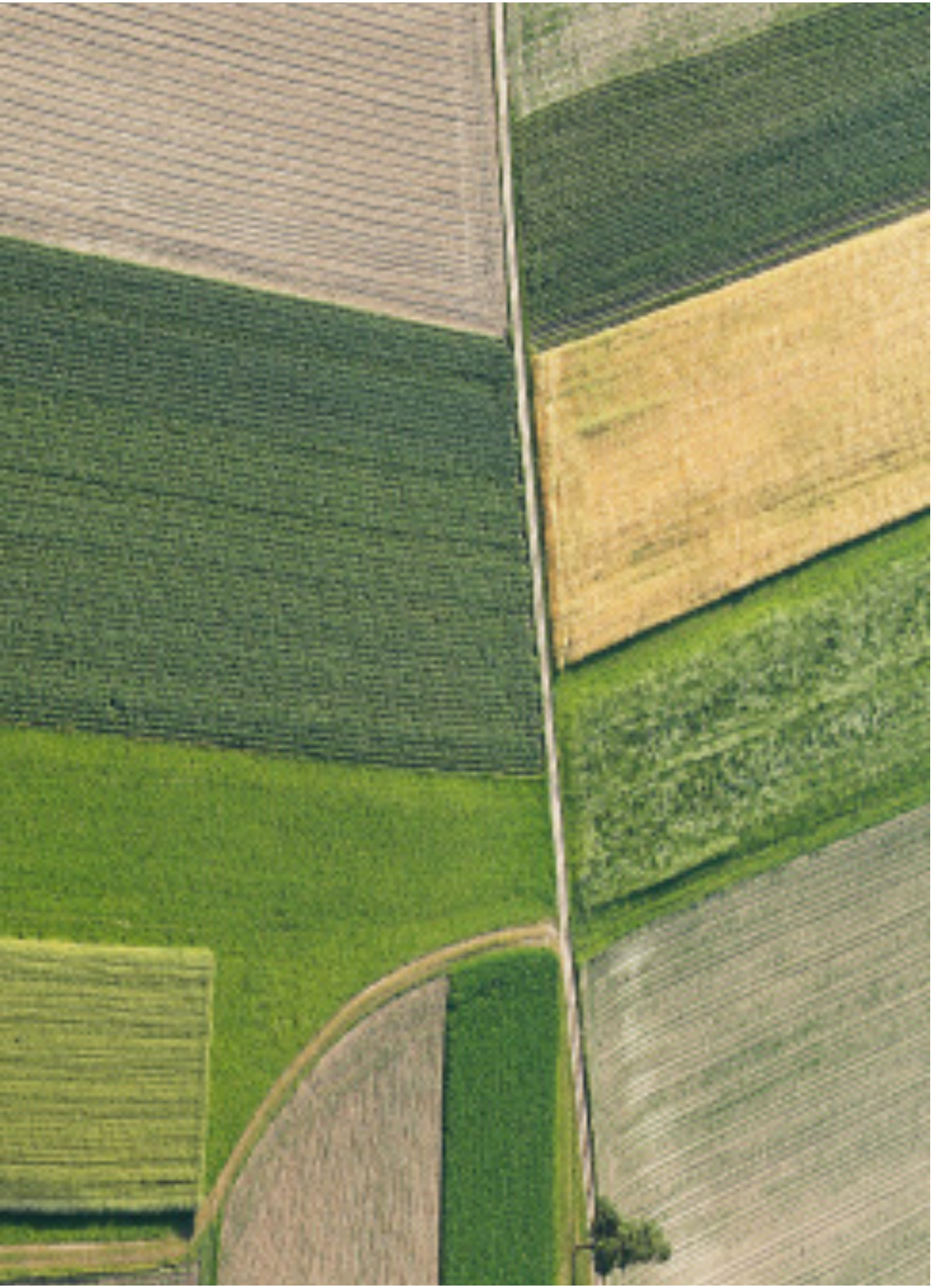
- Government and businesses could collaborate more strongly in the co-develop of policy. A clear message from the report and from discussion in the roundtable was that the policy environment for business innovation is “underdeveloped”. This is not something that businesses can tackle individually, but instead will require joined-action and closer collaboration with government and policy bodies. It remains unclear how this process can be operationalized where there are illustrative examples of it working well.

- The participants discussed at length the missed opportunity of weak public research institutes - business collaboration that, if strengthened, could improve the relevance of public research and provide business with access to new technology and allied expertise needed for innovation.

A more general point on partnerships is the observation that this is still largely discussed in binary terms of public and private sectors or large companies and small companies. Participants discussed the role of civil society organization also. However it seems fairly clear that innovation for the SDG's is going to require collaboration across a wide set of capabilities (and therefore individuals and organizations). Little thought seems to have been given to this in current debates, and a much deeper understanding is needed of how this might work and how it could be supported through both public and private sector investments.

3. **Measuring progress**
   There was considerable discussion of the need to have better measure of progress against SDGs. It was suggested that this is needed for accountable reasons, particularly in partnership based initiatives. It was also suggested that quantifying progress and impacts could enable better dialogue, particularly with policy makers. There were also calls for open data –"let the data speak" – and generally the need for a much stronger evidence base about what is working and why. One participant raised strong concerns that SDG reporting runs the danger of it being used cynically to rebadge business as usual activities and results. The argument was made that reporting on the SDGs needs to be about reporting on the transformations that businesses and governments are making in order to address the SDG as well as the metric of impact.

4. **Something we can work on together: The perennial challenge of technology adoption by farmers.**
   As already mentioned in relation to the role of research institutes and their collaboration with the private sector, there is a general sense that good technologies are available but are not being made use of. One participant from a major international integrated value chain company explained that a major challenge was getting smallholder farmers to adopt improved practices and technology. Without this farm level innovation it was argued it is difficult to improve productivity and incomes and difficult to introduce sustainable and inclusive production practices. This challenge was echoed by other international agribusiness companies in the wider conference whose business model either depends on sell products (agricultural inputs) or involves working with communities to create a sustainable and inclusive supply base. The participants acknowledge that the challenge of accelerating farmer adoption of technology has been around a long time and has been studied extensively. However, many of the solutions to this problem applied in public agricultural extension services seem outdated and not in step with the business-led model of farm and value chain innovation. Developing new models, working out what works well and identifying bottle necks and lock-ins that restrict farm level innovation seems like an applied research task that not only needs collaboration across agri-businesses, but could contribute to the solution of a problem that both business and public research and agricultural extensions agencies need to solve to move forward on a number of SDGs.



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