

The Gatekeepers' Intervention in Innovation and Technological Transfer

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Abstract: This work discusses how knowledge gatekeepers' intervention in the process of innovations and technology transfer was developed and applied in the manufacturing, financial and R&D firms in Rwanda and Uganda. The study was based on 150 questionnaires distributed, and used to collect empirical data. Furthermore, 25 interviews were conducted within ten organizations and fifteen well known opinion leaders and recognised experts in the fields concerned by this study. In an examination of the role of gatekeeper of knowledge in knowledge transfer processes the study has found that knowledge gatekeepers may be individual, a firm, or a department within an organization. Furthermore, individuals working as knowledge gatekeepers must adapt to the recipient culture and knowledge sharing practice if they are to effect change. For technological innovations and knowledge transfer, the study found that the role of gatekeepers can be a multidimensional one, ranging from being trust and relationship builders, ambassadors within and from originating firms to receiving firms, and flag bearers. On the basis of the evidences obtained, the study has found no evidence to suggest that, in a gatekeeper's intervention within the knowledge creation process, there are no evidences that, in case of a firm acting as a knowledge gatekeeper, may necessarily develop asymmetries as well as put in place destructive mechanisms to restrain potential competitors within the sector from developing similar products or that they would necessarily incorporate innovative SMEs in their network who may provide related products to the leading firm.

Keywords: knowledge gatekeeper, innovation, leading firms, knowledge creation, knowledge sharing, culture, Rwanda, Uganda

1. Theoretical background

In this paper the author continues to revisit the concept of "Knowledge Gatekeeper" (Allen, 1977:145) and seeks to build up evidence based argument made elsewhere in Harorimana (2007, 2008a,b), where, the author argued that the concept of knowledge gatekeeper has been under-researched and yet firms are increasingly looking at ways they can access knowledge located far away and in the same time firms need to be aware of the potential of exposure to potential competitors. Further, the elements of cultural implications where firms are operating at a global scale have not been touched upon. We need to know how firms would adapt to the new realities of a Borderless World and where employing international consultant has become an integral part of the business practice. Vale (2004) shows that some firms among others may include individuals who liaise between firms, or some small firms contracted to provide specialized services to larger firms. In the latter case however, Morrison's (2004:30) findings in Southern Italian firms indicated that firms may "incorporate within their networks the best providers and subcontractors a creative-destruction mechanism then favors the survival of the most efficient ones. On the other side they could produce perverse effects. They may strengthen internal asymmetries and in turn exasperate conflicts, in particular between large and medium firms". Following Morrison's (2004) claim that (1) leading firms incorporate subcontractors, and create sub-networks of suppliers as well as an end-user-supplier relationship, Von Hippel (2005) claimed that (2) firms are able to collect information they need from their customers including from within their business networks which are a coalition of sub-contractors and suppliers. The advantage of this form of relationships is that firms can, in return, (3) be able to develop products that meet customers' aspirations and standards, and the ownership of the acquired (both old and new) knowledge remains the property of the firm. This paper also considers (Porter 1990, Harorimana, 2008b) the claim that firms may prevent their knowledge from freely circulating, particularly if they believe that this is the source of their competitiveness and that firms may not want to share knowledge because of the costs and risks involved. The aim of this paper is therefore to evidence the role of knowledge gatekeeper in this process of knowledge creation and sharing within and inter-firm networks. The paper seeks to evidence how firms do respond to the gatekeeper's role in respect of these two opposing theories (views)- namely Morrison (2004), Vale (2004) and Von Hippel (2005), Harorimana (2007, 2008a,b) who are advocating for democratized innovation and knowledge sharing. The research question continues as-"what is the role of gatekeepers in the knowledge transfer Process?"

2. Methodology

There were ten case study organizations spread across two countries. The research the usage of multiple sources of evidence adds breadth and depth to data collection and assist in bringing a richness of data together in an apex of understanding through triangulation which contribute to the validity of the research

(Yin, 2003). Among many other strengths, this research relies on its ability to combine a variety of information sources including documentation, interviews, questionnaires and using technology SPSS to analyse study findings.

2.1 Company profile and background information

Table 1: Rwandan companies

FIRM	Size /Number of Fulltime Employees (Equivalent)	Description
1	425	Part of Heineken Group. As a beverage industry BRALIRWA'S Coca Cola, Pepsi and many of the other well-known international brands of soft drinks are bottled locally under licence. Mutzig, BRALIRWA's second best brand was developed from traditional indigenous practice of sorghum beer fermentation in which local people used indigenous knowledge to make own beers.
2	282	One of the pioneer manufacturing companies in Rwanda. SULFO is engaged in manufacturing, Marketing, Importation and Trading. It manufactures 150 products items, some of which are manufactured under licences such as 'Bigen' which is manufactured under licence of Hoyu, Japan and 'Nivea' under licence of BDF Germany.
2	250	Unique manufacturer of clothes and cotton wools based products. They produce various types of fabrics
3	222	BCR was founded in 1963 and is now under the ownership of ACTIS. It is second biggest bank in Rwanda with a market share of 28%. ACTIS own 80% of BCR against 20% government shares. It is private equity investor in emerging markets based in the UK with a major focus on Africa.
4	89	Coffee processing, packaging and export. OCIR CAFÉ was created in 1964 with a mission of supervising coffee related activities in the country, from production to commercialization. Its mission has recently been reviewed to concentrate mainly on policy formulation and implementation, with particular emphasis on developing professionalism within the coffee industry, as well as marketing and promotion.

Table 2: Ugandan companies

Firm	Size /Number of Full time Employees (Equivalent)	Profile/ description
5	500	The company has been in the service of the east and sub Saharan African household for the last 2 decade. Mukwano Industries is the holding company of other companies in the Mukwano group.
6	400	Manufacturer of more than 15 products. It is one of the largest companies within East African Community
7	600	Manufacturer with a fully automated detergent plant manufacturing and a full range of quality detergent and hygiene products in both liquid and powder form.
8	520	Manufacturers of a range of commercial and house hold plastic ware
9	480	Manufacturers of hard-boiled candy and lollipops assorted fruit flavours. Also the manufacture of chocolate based and centre filled confectionery.
10	69	Three incubation centres under one roof. Uiri does researches into food processing and the development of ceramics and other products, as well as several pilot plants for production, engineering and manufacturing workshops metalwork). UIRI is engaged in activities that lead to rapid industrialization of Uganda by identifying appropriate and affordable technologies that will enhance adding value to local products so they can be processed for national, regional and international markets.

Because of the nature of case study approach that allows each case to be treated individually (Yin and Stake, 1991, Yin, 1994, Yin 2003), the study was able to accommodate special features of these cases that

could not otherwise fit into a standardised approach in their own circumstances. For example, organisations number 4 and 10 acts as regulators, processors, marketers and supporters of businesses on behalf of the state. With multiple functions, it was important that the role of these organisations be studied. However the rest of the firms are engaged in manufacturing and R&D business with the exception of BCR who provide investments and advice to manufacturing firms.

3. Findings and analysis and discussions

Using a questionnaire instrument, the researcher asked respondents to make a judgment based on the minimum requirements to qualify as knowledge gatekeepers. The benchmark characteristics were:

- Having a minimum of Education at the Degree level, or experience in the sector of that amount to warrant such knowledge and level. This is to satisfy ourselves that the person is informed and knowledgeable on the subject.
- Being exposed to outside knowledge (ability to read journals, newspapers, reviews, and have access to internet or other Media)
- The person is recognized by at least three other people who name him/her anonymously during the research process
- The person is willing and able to engage in learning and sharing knowledge with others.

Respondent were thereafter invited to confirm on whether they would see themselves as knowledge gatekeepers, and if so, how far did they agree or disagree. This question was semi open to allow respondent to back up their answers by providing descriptive answers and examples of their experiences that can amount to them being qualified as indeed knowledge gatekeepers (see question 1, table1 findings). Among those who responded to this question positively, the researcher invited them to confirm if they would be interested to talk about their role in the following questionnaire survey.

From overall number of 50 respondents on this question, (N=50) 29 respondents were disqualified from being possible knowledge gatekeepers, and 9 were rated as actively involved in the knowledge gatekeeper's role and 9 were believed to be doing some participation into such activities. This gives the research a total of at least 40% of the total respondent rate played knowledge gatekeeper's role on individual basis inside organisation or outside organizations.

Table 3: Gatekeeper's role

		Frequency	Percent	Cumulative Percent
Valid	N/A	29	58.0	58.0
	Strongly Agree	9	18.0	76.0
	Agree	6	12.0	88.0
	Disagree	3	6.0	94.0
	Strongly Disagree	3	6.0	100.0

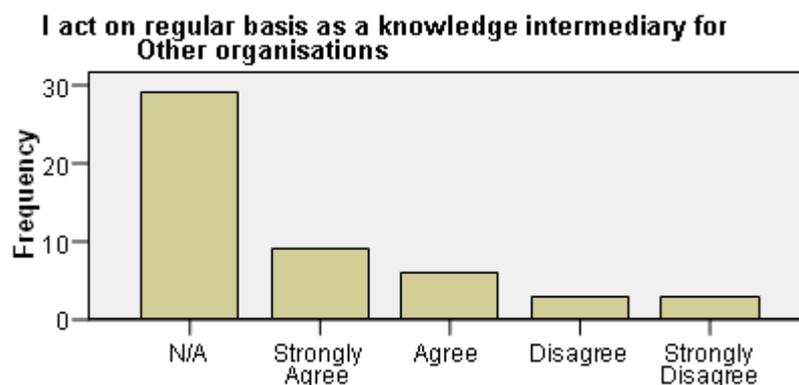


Figure 1: Gatekeeper's role

Answers to this question are reflection of the limitation of people who are regularly engaged in knowledge transfer activities outside their firm's boundaries. The majority (29/50) see themselves as not engaged-they do not think they met the threshold characteristics of being a knowledge gatekeeper. The possible reasons

that were given were that they do not have an opportunity to do so and that they already have an overwhelming job to do. As this question was seeking to find out if there maybe requirements to become a knowledge gatekeeper or if it was purely perceived to be a voluntarily and self accomplishment endeavour. The answers seemed to be, at organisational level that knowledge gatekeepers brings in novel knowledge and open up possible knowledge renewal or recombination's that those organisations and their stakeholders required.

...Gatekeepers give us expert's contribution- the novel knowledge that otherwise we could not get within our available resources... UIRI

Even then, those who strongly agreed were rarely rewarded for what they have done.

3.1 Knowledge gatekeepers as an important asset to organizations

..These individuals have brought extensive experiences and skills that we needed to expand. As you may be aware, we are now part of HG and that means that we are pressed to deliver results. BRW

These individuals are very good at setting out higher standards... BCR

Managers who responded to questionnaires do agree with employee's view onto the role of knowledge gatekeeper- and they do agree that knowledge gatekeeper constitute an easy way to improve organisational knowledge base. Further evidences support the view that many firms do employ gatekeepers, although managers do not think that knowledge gatekeepers should be rewarded for such a role. An exception to this view is only when the gatekeeper was hired from external sources. Below are findings relating to knowledge gatekeepers, the way they are perceived by employing firms:

The Role of Knowledge Gatekeeper

	Among other ways we use to train our staff include using an external person who knows better	We find knowledge gatekeeper as an easy way to improve our knowledge base	We reward knowledge gatekeeper for his job	Knowledge gatekeeper is the source of novel knowledge	Knowledge gatekeeper is not our own full time staff member	I act on regular basis as a knowledge intermediary for other organisations and or charities
	Count	Count	Count	Count	Count	Count
N/A	2	4	5	9	27	29
Strongly Agree	14	16	10	6	7	9
Agree	25	19	19	19	7	6
Disagree	8	10	11	12	4	3
Strongly Disagree	1	1	5	4	5	3

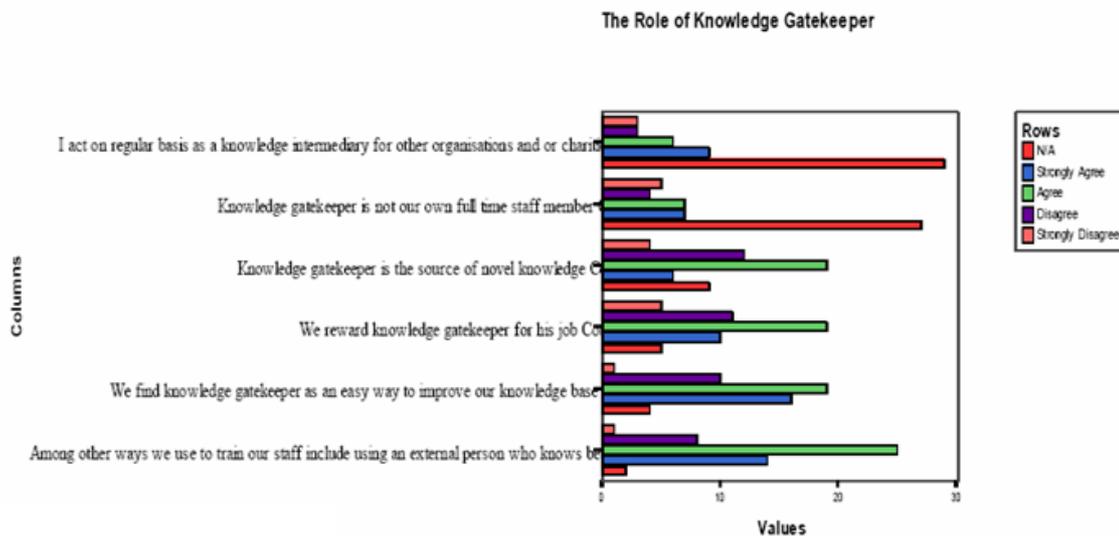


Figure 2: Perceptions of a gatekeeper

Further interviews with “experts” and MDs of concerned organisations reveal several aspects of knowledge gatekeepers. Among other findings there is an emerging aspect in this research. For example, the role of knowledge gatekeeper seems to be fulfilled in different ways. As individuals, gatekeepers can be significant source of knowledge. However, there is an increasing view among respondents that knowledge gatekeepers who provide the best source of reliable, informative knowledge is that played by institutions or communities of practice as a collective entity. The theme of the community of practice was not studied in this paper; hence, further empirical evidence will focus on organisations as well as people’s role as knowledge gatekeepers. In that regards, below we provide further evidence to study their role:

<u>Questions</u>	<u>comments</u>
<p>The first section of the interview aimed at discovering who is a gatekeeper and why they are believed to be one. Based on the definition, Managers, directors and employees had to decide the conclusion and justify these conclusions by providing an example that described which qualified a knowledge gatekeeper and the role played.</p> <p>Question 1: Is there evidence that you are acting as a knowledge gatekeeper here or abroad?</p>	<p>The entire respondents to these questions gave a positive answer Yes. When they were invited to support their answer with examples, the researcher recorded the following statements among many others:</p> <p style="padding-left: 40px;">I serve as a knowledge gatekeeper in several areas. The most important are:</p> <p style="padding-left: 40px;">I act as knowledge brokers to individual businesses</p> <p style="padding-left: 40px;">Assist Cooperatives through projects planning, implementation, and identify appropriate funding for them.</p> <p style="padding-left: 40px;">Provide consultancy and advice to businesses so that they can improve their production or say “financial returns”</p> <p style="padding-left: 40px;">And [as part of my company community,] we and (I) have intervened in several ways to help set up new businesses either through providing specialised advice or simply through providing financial support. Most SMEs come to us [the company] to seek for advice and support (knowledge, financial, leadership)</p> <p style="padding-left: 40px;">Helping and encouraging business start ups,</p> <p style="padding-left: 80px;">training and</p> <p style="padding-left: 40px;">providing financial support</p>

<p>The investigator was interested to know about the management relationship and how these impact on knowledge transfer</p> <p>Question: What characterised your relationship with your business and trading partners?</p>	<p>The recorded statement contain the following key word and descriptions:</p> <ul style="list-style-type: none"> • Open, Honest, Mutually supportive, Transparent <p>E.g. Firm 1: elaborate</p> <p>At the outset, RP started but without skills they needed, they did not have qualified personnel, they did not have required funds, they did not have specifications of our products needs and they did not have an R&D department. Briefly, they had nothing other than knowing that the market was available.</p> <p>As experienced manufacturers, we knew what our needs for the packaging were. We had specifications of the products from our own R&D team. As a result, we provided support in the followings</p> <ol style="list-style-type: none"> a) We provided quality specifications, b) We trained RPI staff c) We helped in importing raw material d) We provided formulas for mixing the chemicals to produce products at our required standards <p>Additionally to this, until now, RP Industries' staffs have free access to our resource base such as knowledge sharing. We share with them our experiences.</p>
<p>When the researcher asked: would they intend/would they /have to incorporate (d) some of the SME who are rather more innovative than initially anticipated</p>	<p>The following answers were recorded :</p> <ul style="list-style-type: none"> • Companies would and they remain as independent company. • Partners do not play any part in the company management decisions.
<p>On the issue whether they, other than their own business interests, have other motivational influences to helping start-up new business, there were varied answers and these are summarised in the following words:</p>	<ul style="list-style-type: none"> • On the one hand, we feel that, as a company, we have contributed to both helping start up new companies and we are still pleased to partner with them. They are now part of our supply chain. • We cannot succeed without our partners succeeding. There is a strong sense of commitment on both sides

<p>Since they BRW have enough resources and have qualified personnel, the investigator needed to know whether BRW sometimes are attempted to takeover SME who work with them including RP Industries. Any answer to this had to be justified. These were the answers:</p>	<p>No. If we really wanted we could. But this is a large market, and our mission statement is not targeting exactly that area of business. We can only do what we, as a company have chosen to do and then help locals to set up other companies to help us to meet our needs. For example, we are working with the NUR to inspire young entrepreneurs through a recruitment scheme that target the best student in engineering, science and Management. This is another way we feel that, in doing so; young students can be innovative and inspire them to work hard. Another reason we cannot take over RP, is because we feel that it is our social responsibility in helping and supporting new business start ups. This is also a way of creating jobs.</p> <p>Notes: This question was answered by two firms who had developed relationships to such extend both organisations had a “resource sharing” to an advanced level including R&D projects:</p>
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Figure 3: Gatekeepers interviews: Qualitative findings

From both the interviews and the quantitative data which have been presented in descriptive tables, the study finds that:

3.2 Some respondents from various firms are actively acting as knowledge gatekeepers

Organisations are employing knowledge gatekeepers on part time basis. More interestingly these people are external contacts who are called in by senior managers, friends, and industry standing experts .This is because for the organisation, these people represent a resource, an “extra –eye” on understanding and objectivity. The word “extra-eye” was frequently used to mean that knowledge gatekeeper was trusted by employers as well as employees to provide an objective judgement.

They can craft a buy-in and support; Respondent BRW

These people help us in identifying internal senior-level Champions. Respondent UTX

When the same question was put to external stakeholders into two private companies, they were described as “advocates” and “trusted” people to upholding organisational values. Similar findings to these were also recorded in Cranefield and Yoong (2007) into research in the key factors impacting on inter-organisational knowledge transfer in a collaborative project involving a group of New Zealand State Sector organisations where they found that the “*gatekeeper performed the role of advocate, using enthusiasm to secure buy-in from colleagues, the CEOs and senior managers*” (Ibid.124). In this study, gatekeepers in BCR and ICR, helped identify appropriate project areas-particularly those requiring government buy-ins before a decision on investments can be reached, they provided an independent assessments on investments on areas such as housing, stock markets, opening up new corporate business portfolios, as well as on issues that requires buy-ins by relevant bodies or external funding. With regards to external stakeholders, knowledge gatekeepers are trusted to be in a better position to secure “deals” requiring long term commitment of business stakeholders. Also consistent with Cranefield and Yoong (2007) findings indicates several factors were identified as moderating the effectiveness of the role of a gatekeeper among others include the perception of the work value, trust, fit with expectations, cultural understanding and fits within organisational learning, the impact of workplace issues and power, reflected in the gatekeeper’s level of seniority. With regards to this study, the context mediating effect of the role of a gatekeeper can be described in the following table

Table 4: Mediating effect of the role of a gatekeeper' role

	Trust	Cultural fits with organisational learning	Experience	Who
Work Value	High	Medium	High	employees Stakeholder
Seniority	Low	N/A	Low	Gatekeeper
Fit with Expectations	High	High	High	Company directors, Stakeholders
Relationship with existing workplace culture	Low	High	High	Employees, Directors

One of interesting findings from Companies investigated is that if the work to be done is highly valued by employers and stakeholders, then a gatekeeper is highly required and is trusted to deliver results more than would be the case for local managers.

...For us, these we need from these people is forging and introducing us to the new world, to create internal and external networks of important decision makers and possible business partners. Respondent BCR

..Even if things aren't working well or unlikely to deliver results, a manager will not necessarily inform us until we find out ourselves. At that stage, it may well be too late to save the business...Respondent BRW

Within the context of UIRI it was possible to investigate possible existing differences that may exist based on their regional, tribal origins, and how these may impact on knowledge sharing and transfer. The majority of cases, employees did not recognise such differences exist. Whilst Williams *et al.* (1998) argued that organizations may be unable to see beyond their routines and customary practices, respondents point to the fact that their organisations recognise the need to have a consistent team work. They achieve this by developing internal mechanism that shapes learning and knowledge sharing based on intended outcomes. In some cases, the company relies on external knowledge by calling in consultants to offer focused training on organisational systems. The key to success, they insist-is similarities in processes across organisational department. These processes are supported by openness and a culture of mutual support and knowledge sharing.

Some of the findings 4.2 have ramifications that have been expressed in the sense of power-struggle and the balance of personal interests with corporate interest. In the study, those who are seen as seniors are perceived to be less trusted by their colleagues and actually there is a strong sense that these people are not necessarily equipt to do the most demanding job for organisations. For that not to happen, a knowledge gatekeeper is thought to deliver services in areas that are likely to be a source of conflicting interest. When this question is oriented to a gatekeeper however, the result becomes more positive- the more demanding the job is, the more they needed an experienced gatekeeper. More interestingly, there is a proportional increase in job expectations for the job to be done and the level of trust and experience needed.

More importantly, we need someone special. Someone who has ability to create a small room for them to excel in translating the knowledge back into the organisational culture; Respondent MD UIRI

When we have to deal with highly specialised areas, we need someone who is capable to use (own) unique expertise to initiate processes, to influence and educate internal and external stakeholders;

The role of knowledge gatekeeper was also associated with being a knowledge translator-converting written knowledge into accessible literature for the public:

- For UTX and UIIR however, knowledge gatekeeper's role involves translating latest technological development, into accessible literatures, training tools and public presentations that can stimulate and engage in debate with knowledge users.
- In particular, UIIRI has specific role for a gatekeeper-that of relating IK to other sciences and knowledge systems. Knowledge gatekeeper reads journals on knowledge user, holds consultations, and develops a path under which indigenous knowledge can be translated into industrial usage.

- In BRW however, the role of the gatekeeper involves translating organizational strategy for R&D, marketing, production systems, and improving supply chain through creation and support of related industries (SMEs)

3.3 Knowledge gatekeepers as organisations: The case of UIRI

As an institution we [UIRI] were given this mission of not just identify indigenous knowledge (IK) and make it relevant to our people’s development, but also to conduct research in various other areas that may contribute to the development of our industries. Respondent UIRI

Knowledge base created at UIRI comes from small businesses in rural Uganda, SMEs, as well as some indigenous communities in farming associations. Specific areas of interventions include entrepreneurship training, monitoring, marketing, networking, mentoring, as well as to provide shared services and infrastructure to small businesses who wish to develop their ideas but are lacking appropriate infrastructure.

In order to understand the role of the knowledge gatekeeper under study, it was required to take into considerations its ultimate aim within business volatile climate. More than half of SMEs in Uganda do not see through their first year of operations, and the majority of farmers are poorly able to save up to 40% of their harvest (Uganda Institute of Statistics, 2007). According to the Uganda Ministry of Economy, despite that Uganda has a good standard of education in the region comparably to its counterpart within EAC, higher level of literacy and higher education degrees among its people do not translate into economic gains (absorptive capacity of information). Since post independence, Uganda industries suffered and continued to experience challenges in integrating its aspirations of becoming industrial hub through a rapid industrialisation of Uganda. UIRI was therefore targeting to be a knowledge gatekeeper in most areas that concerned the economy of Uganda. The following is a diagram of activities as was anticipated by the central government. The chart has been deliberately clustered according the areas of focus.

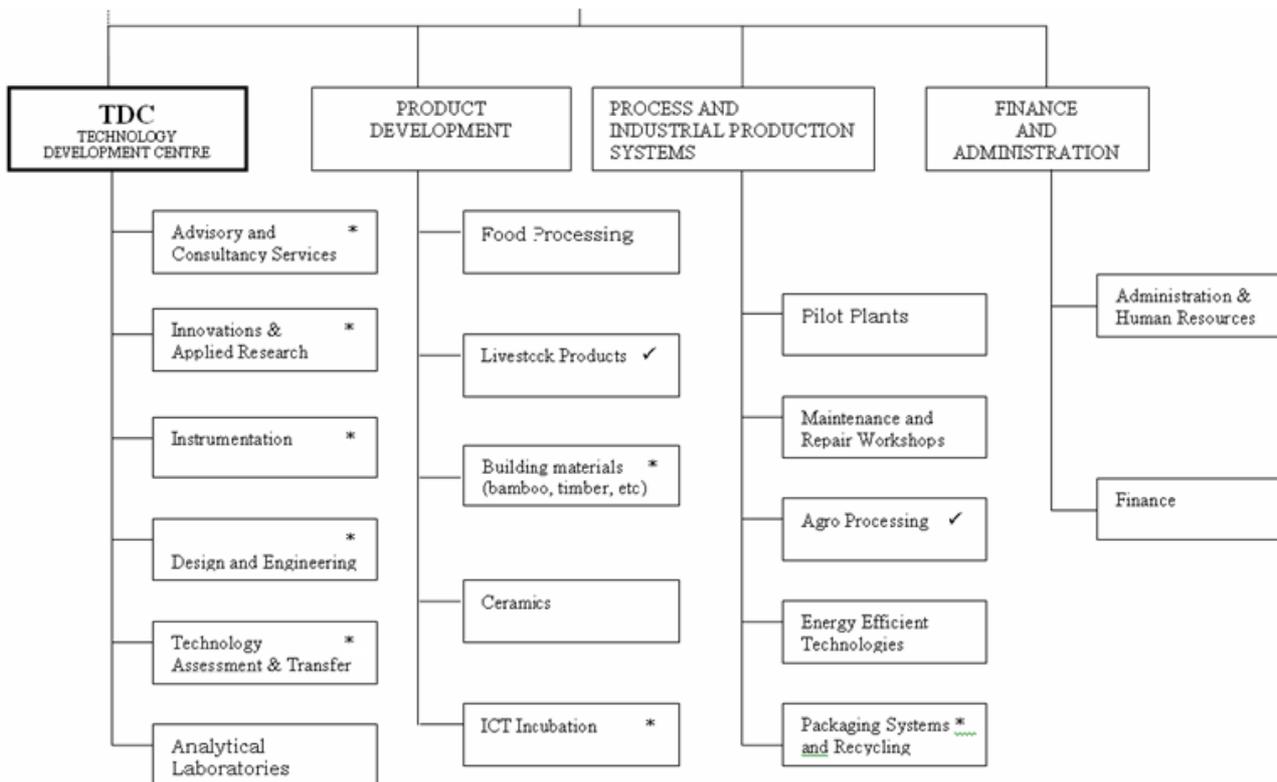


Figure 4: Sector of activities. Source: Uganda Institute of Industrial Research

The above diagram reflects sets of areas of UIRI. Further, it reflects areas of focus by respondents in this research. Each department had at least four respondents to the research questionnaire along with other interviews with four selected officials including the MD, divisional heads and employees. The departments complement one another and they are involved in knowledge creation, transfer and dissemination process. Among responses obtained, there is evidence based consensus that UIRI has been involved in

1. Knowledge identification (with particular focus on IK and how this can feed into further advanced research)
2. Knowledge documentation : Here the staff are required to document which type of innovation and innovative ideas, what processes were involved, how often the processes were repeated and produced or did not produce similar results, what if any, are recommendations they can make for further investigations
3. Knowledge testing and confirmation in laboratories: Intensive testing is conducted and product can be rejected or confirmed.
4. developing prototypes and automation:
5. Knowledge dissemination: Their activities include finding relevant customers, organising workshops to raise awareness particularly with indigenous communities, develop tools and put in support mechanisms to support third parties who may buy their technologies.

Within UIRI, knowledge creation process takes on a form of social process first before it reaches a stage of intense activity in laboratories. The enabling process is said to be a mix of identification and documentation of the indigenous knowledge at first place, a mechanism which is enabled by social interactions with IK owners. This process within the organisation at hand is handled by appointed full time staffs that travel around the countries rural, taking and sharing experiences with those people who hold potential areas of knowledge needed to develop in the laboratory and automation. This research held discussions with staff members who revealed the following process followed in knowledge transfer:

Below is the knowledge creation process from start

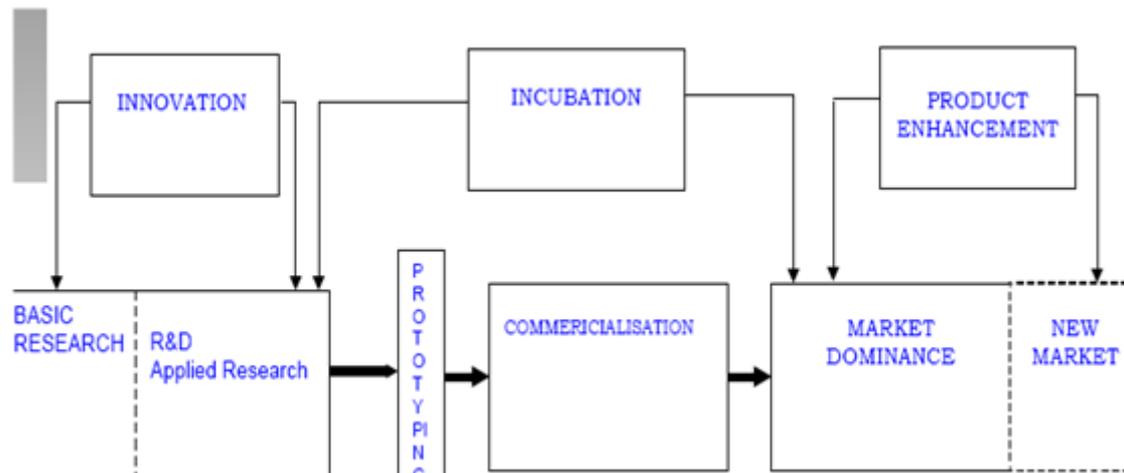


Figure 5: Process of knowledge identification throughout to knowledge dissemination stage

The above figure shows that the process of knowledge identification starts from basic level of inquiries. Inquiries are conducted from local indigenous communities and from experiences of application elsewhere in the World. Each of this stage feeds into one another, leading to an advanced stage whereby documentation of processes takes place. The documentation is followed by intensive work in laboratories (R&D) where first attempt to automation is made. At this stage the record of innovation can be either confirmed or rejected. Moreover, if the R&D stage becomes successful, a prototype is placed into an incubation centre where the product can be enhanced then marketed to either local firms or abroad. In this process knowledge transfer activities can be enhanced by close relationship with companies who are able to buy the innovation for business purposes. This is the most vulnerable stage (according to engineer C) as it entails total trust and commitment to one another through mutual engagement and support.

3.4 The third party views on the benefits from UIRI's role

The research project used interviews to find out people's perceptions on the role played not just by them- but by their colleagues as well as those who benefited from knowledge identification, knowledge documentation, and training and through product development. Below are examples of experiences told by respondents:

These individuals have brought extensive experiences and skills that we needed to expand.

These individuals are Very good at setting out higher standards.

These responses were obtained within a context of individuals fulfilling the role of gatekeepers. The question was addressed specifically to seek clarifications about differences that may exist between people fulfilling the role. From these personal views however it is not clear how an employee could separate between those

tasks carried out within his/her contractual obligations and that those voluntary tasks which would not normally attract employer's pay and appreciation. The challenge that is further noted here is that the majority of staff work according to job needed to be done including out of hours and week ends visits to communities or businesses far away from the site. These sorts of visits away from the site of the workplace are common and they intend to maximise the benefits of networking and establishing linkages. Given that the successes depends on creating long lasting and trustworthy relationships with communities, it can be almost impossible to quantify the intensity inputs of efforts and length of time spent on the job related tasks. The process of building relationships and identity formation means that in some cases staffs are required to advise those they visit in areas which do not necessarily fall within they line of responsibility. However, rewards and acknowledgement by employer's contributions to their employees may not be commensurate with the jobs they do even though those who benefited from gatekeeper's job are satisfied with the service they received. For example, from the interviews with people who benefited from UIRI project, the following findings were recorded:

Gatekeepers give us expert's contribution- the novel knowledge that otherwise we could not get within our available resources.

They provide a linkage with international partners and sometimes they help us determine appropriate customers for our products.

From the institutional point of view, knowledge transfer involves not only those tasks which can be monitored at all times. They argue that for knowledge transfer to be successful they require spontaneous involvements, initiative driven and outwards looking set of activities. The C.E.O (an expatriate National) in particular expresses the view that staff recruitment at this particular company should aim at targeting people not just with high level of qualifications but also with relevant experiences or capacity to network, create sustainable relationships to support learning and, access a knowledge base through which change can be introduced.

3.5 BRW as a knowledge gatekeeper

BRW is a multinational branch that operated in the country for many decades. This company has resources and exposure acquired in doing businesses not just locally but regionally and internationally. Moreover, local macro-economic circumstances did not permit the 500 employee company to satisfy its manufacturing needs. The company senior management say that the cost of doing business is high and they attribute this to lack of related industries that would provide them with specialised services they need. They work with the RPI who supplies to BRW with packaging material. BRW initiated and supported the creation of this highly specialised firm to operate under supplier's arrangement with full access to BRW internal resources such as knowledge base, interim funding and training. Below is the support shares given by each of these firms:

Table 5: Share (%) for funded activities by BRW

Support given Share	Product specifications	R&D Support	Funded external training	In-house and internship	Products support
BRW (%)	98	100	85.2	72	75
RPI	2	0	14.8	28	25

There is significant amount of knowledge transfer taking place between BRW and RPI and this increases as knowledge intensive activities are required. Respondents explain this phenomenon as because R&D activities involve significant amount of time spent together discussing options available and reaching an agreement on products specifications. This study findings suggest that that there is a positive association between tie strength which increase with the tacitness and decreases with the codifiability of the knowledge being transferred. Furthermore, respondents add that *knowledge involved in product development is a difficult and complex process that requires really twisting and turning one another's argument until you have reached a consensus...*Engineer X10. RPI and BRW R&D teams express views about the use of manuals as inappropriate and in some cases are just too long that they *cannot read many pages (of the manual) and then get to do the job on time...it is just not possible!* Y7.

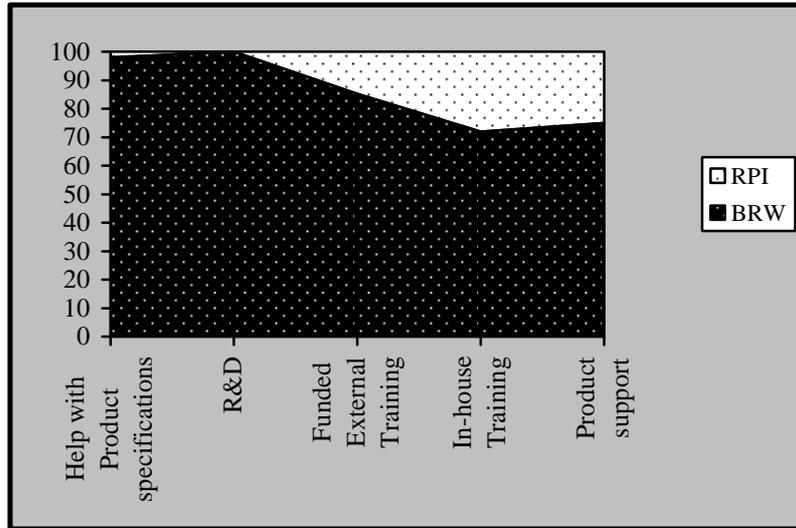


Figure 6: Share of support BRW to RPI

R&D team members find it necessary to meet in a face to face interaction as many times as needed to ensure consistency and shared understanding. They have found that higher level of confidence of staff involved is strongly related to the amount of time spent in face to face interaction, shared understanding and knowledge of the products being discussed. In addition of these respondents add that...*trust is absolute necessity and it not possible to pretend that it is there when it is not Y10*. In some cases, less complex tasks and specifications are exchanged through emails and telephone conversations can be used to reinforce the message. According to respondents, each stage plays an equally important role in a business relationship and BRW manages this by treating their business partner's mutual respect, equal empowerment and mutual support. Below is the R&D process between BRW and RPI.

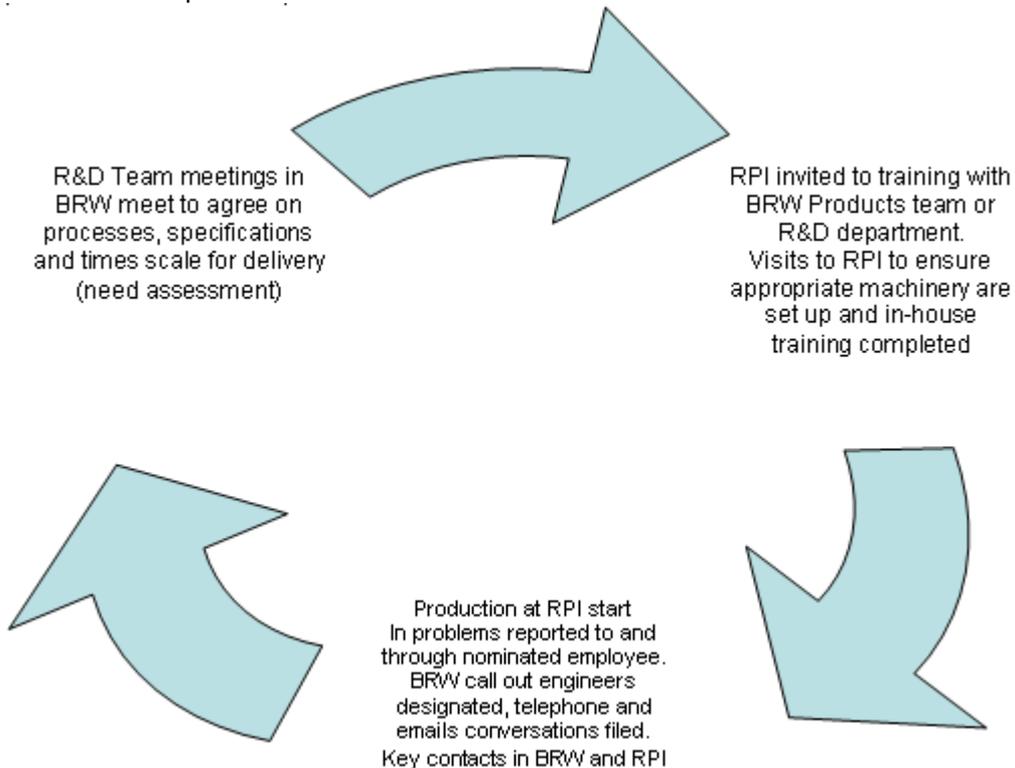


Figure 7: Process of knowledge transfer: BRW and RPI interaction

These findings together with those from interviews recorded in Figure 3: Gatekeepers INTERVIEWS: QUALITATIVE FINDINGS show that BRW played the role the role of gatekeeper in different ways. The above findings show that they have created strong linkages with RPI in areas of knowledge sharing that resulted in long term business association. Further they are sharing resources, train RPI staff and provide financial support. Both companies express satisfaction in the nature of the relationships by indicating that

they are based on mutual support and driving innovation through continuous assessment and learning based on one another's needs. Although the relationship has been embedded within both company structures, there was no evidence available on organisation chart. BRW and RPI are still independent companies, with each one managing the relationship under what they call "*special arrangement based on business need and mutual support*" Manager BRW.

BRW's activities are not limited to RPI network and support. As a major company with significant influences on local market, BRW is also the largest private sector employer in the country. Further activities are expanded in areas of PR and marketing; the company support farmers who produce the products they use in some of their leading brands, and support local consumers through friendly suppliers relationships. Below were the findings from employee respondents to this research about company's role as a knowledge gatekeeper:

Most SMEs come to us to seek for advice and support and this include knowledge and leadership.

- We decided to encourage the creation of synergies with local companies and other potential people... We brought them together and integrated them into our supply chain and the network. The result was therefore a birth of an independent manufacturing company: RPI
- We assist Cooperatives through projects planning, implementation, and identify appropriate funding for them.

Although there were issues between suppliers' power relations with BRW, there were no significant indicators that BRW had any intentions to incorporate those innovative SMEs who were supplying specialised services as suggested in Morrison (2004)

...if we really wanted we could. But this is a large market, and our mission statement is not targeting exactly that area of business. BRW

..We can only do what we, as a company have chosen to do and then help locals to set up other companies to help us to meet our needs.KWN,

...The greater we open and share our knowledge, the greater our risk and the greater is our opportunities to innovate and learning...here we imbue employees that every risk is an opportunity and not a hindrance .DGM

Finally, Knowledge sharing between BRW and RPI was governed by trust and closeness to BRW in the suppliers' hierarchy. The BRW argue that they do not intend to give up on supporting specialised services delivered by RPI, but they *do not intend to incorporate them*. The core argument to this is that are *not relevant to their core mission* (Senior Manager BRW). Subject to further study, our indication of possible reasons for this maybe that possibly the market conditions are so loose that competition is weaker (referenced to embedding the case studies in the fifth chapter of this thesis for further analysis of economic conditions) compared with current Italian based firms where Morrison (2004) based the study on the role of the gatekeepers in knowledge transfer process.

4. Conclusions

The study of knowledge gatekeepers continues to evolve towards probably one of comprehensive directions: whilst previous studies concluded that the gatekeeper's role was informal and individually centred, it is becoming clear that this is not always the case. This paper evidences that beyond people, organizations such as UIRI and BRW play the role of knowledge identification, evidence gathering, developing new knowledge and further disseminating and supporting other companies/or people who may need it. Whilst knowledge gatekeepers contributed to the benefits of firm's internal capabilities, people acting as knowledge gatekeepers were not paid for their role. However, organizations were recognised and in some cases are funded for that specific role. Where it has been clear that people were considered as gatekeepers, their role became more informal than has been in the case of firms carrying out the same role. The informal nature of people's role as gatekeepers makes their job difficult to recognize when the person is acting as part of the contractual obligations and when this falls outside normal contract-and therefore requiring some form of rewards. Further the paper demonstrate that in the process, firms as knowledge gatekeeper may not incorporate innovative SMEs as this has been argued in previous studies. Future lines of study should seek to explore the reasons and in particular, the study should study the link between market competitiveness and the desire for incorporation of innovative SMEs.

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