

Roundtable Series

The Business Value of Knowledge Organization Systems

This is a compilation of the session notes from all three sessions:

- **Session 1, 10 March 2022:** *Identifying the business value of KOS work in your organization*
- **Session 2, 29 April 2022:** *What are the KOS capabilities that you need to build to deliver business value?*
- **Session 3, 26 May 2022:** *Success and failure factors in sustaining KOS capabilities and business value.*

Our panellists were:

- Bob Kasenchak – Factor – www.factorfirm.com
- Ahren Lehnert – Synaptica – www.synaptica.com
- Patrick Lambe – Straits Knowledge – www.straitsknowledge.com
- Stephanie Lemieux (sessions 1 and 2) – Dovecot – www.dovecotstudio.com
- Michele Ann Jenkins (session 3) – Dovecot – www.dovecotstudio.com

This Roundtable series was organized and hosted by Synaptica – for session slides or any other enquiries contact Vivs Long-Ferguson at vivs.longferguson@synaptica.com

The Roundtable series was accompanied by a Knowledge Organization Capabilities Survey. If you have not yet completed the survey, and would like to see the survey report, please participate at <https://www.surveymonkey.com/r/KOS2022>

Session 1 Notes – 10 March 2022

We held three breakouts themed around knowledge organization work to support:

- **Coordination (Bob Kasenchak):** supporting information flows, breaking down siloes, keeping functions aligned
- **Learning (Ahren Lehnert):** supporting the ability to take in and integrate new knowledge
- **Memory (Stephanie Lemieux):** supporting recordkeeping and creation/ maintenance of knowledge bases

Coordination:

Themes around supporting different business functions with taxonomies and search, and supporting interactions between functions – i.e. performing a boundary spanning role. What do we do when we have multiple taxonomies to connect or integrate, or resolve into a single KOS? Noted that not all key knowledge is in explicit form, and that taxonomies can be used to connect people to people as well as people to content.

Key competency: understanding the users and the business functions/processes being supported/ coordinated.

- Consultant, building taxonomies for large and small organizations.
- Trend seems to be that taxonomies need to be mapped to each other – not that we just need 1 taxonomy – we need to COORDINATE the taxonomies with each other.
- Shoe company, metadata manager – enterprise taxonomy is pretty new and still pretty fragmented, the COORDINATION piece is what needs to be done next – underpinning shared language between silos, fill in missing information - this includes core business concepts.

- Connect engineers in office with KOS, don't have unified taxonomy, various locations, across continents, lots of naming conventions and language, back-office people need to be connected/coordinated with engineers.
- Terminology program manager, content operations, call for shared vocabularies is be-all-end-all, driving consistency across applications and practices, to coordinate and enable analytics, business units, sales units, try to speak the same language and then gain meaningful insights. There is content taxonomy but it is primitive, trying to break silos, still in early stages.
- Programmer/application architect, joining to educate and provide context from developer side. We have our own challenges with KOS even though that's what we build. Information all over in different systems, we could use our own cooking.
- Knowledge manager at video game company, using KOS software. Organization has multiple different teams/technologies, need to coordinate. Lots of moving pieces need more coordination, difficult to know who is doing what (across teams), focus on shared vocabs and federated search. Findability, including finding internal expertise. Also communities of practice. "Not all knowledge can be captured" trying to enhance awareness, documentation.
- Software company – accidental taxonomist (!), worked in sales department but got moved into content management and then taxonomy. Employees have insider knowledge – young company, many many silos. Each silo has a taxonomy (!), lots of digital transformation projects, silos need to communicate.

Learning:

Themes around how to make the business case for KOS work, and how to get started in organizing content for findability and discovery. Requires an understanding of search technology, and how to design the user experience, and interfaces to support learning.

Key competency: understanding the technology and UX design.

Note: Key reference for keeping up with current trends in search are the Search Insights reports (free, annual e-book from The Search Network - <https://thesearchnetwork.com/>).

- Enterprise software company, focus is product management, getting learning into product tooling and support. Wants to model learning questions, connect learning to actions in systems, figure out what to capture in the systems.
- Graduate studies in the healthcare sector – major focus is on learning during the pandemic.
- Information resources management, working with libraries and helping them build the business case for KM.
- Project manager working to improve search for access to healthcare resources.
- A taxonomist working on enhancing search with a research focused taxonomy. Tacit knowledge should be covered in the taxonomy as well as explicit knowledge.
- A consultant and trainer working in KM and innovation management.
- Consultant in enterprise content management and search – supporting knowledge driven work, in finding and connecting internal information. Capabilities of search and learning are growing. Crowdsourcing is one aspect.
- Enterprise knowledge management in biotech sector, a growing company which has been traditionally more interested in the memory side of KM, but needs to make the case for establishing and supporting learning priorities.
- Research role at advertising agency, providing information to support colleagues on consumer insights and industries, curation of content for current needs. Challenges in cross referencing of content, and providing effective search.

Memory:

Themes around (a) classic records/document management needs, organizing records for access and preservation, and (b) knowledge domain modelling (schemas, ontologies, knowledge graphs, data models) to give access to those collections. Some discussion of machine learning and personalization.

On personalization, the general discussion talked about managing the balance between person-specific personalization (individual, may favour unique perspectives), context-sensitive presentations of a KOS (e.g. country, function, role), and the back of house common KOS which sits as a common backbone, and from which the context-sensitive views are drawn.

Barbie: I differentiate customization (in terms of content + scope) from personalization (how I like to view my results, get my feeds, etc.)

Isabelle: Taxonomy vs folksonomy?

Robert: Personalization and collaboration are not in conflict. There are fundamental ways in which local contexts have to be respected – e.g. data residency, personalized security, access rights etc.

Key competency: knowledge domain modelling.

- Consultant using taxonomy across multiple apps and platforms, such as document management systems, records management systems, Intranet, etc. Doing PoCs for a knowledge graph to use the unstructured knowledge in all those sources and mash it up with data, to be able to produce lessons/ best practices from existing knowledge for economists working on new knowledge. To be able to ask discovery questions about the existing collection to find content that informs decisions on new work.
- Using taxonomy to organize streaming video for a specialized community, personalized feeds/newsletters based on their interests. Main concern is findability. Using transcripts to do much of the heavy lifting. Need a good knowledge framework to organize video against. "Memory" doesn't really match the intent because the content is very current and time sensitive, but the knowledgebase focus fits.
- Taxonomist for a health search startup, providing AI-assisted search solutions to key health resources for both patients and care teams. Goal is to describe the health system elements, the actors and resources. Using an ontology to describe relationship between entities, which is used in training/ machine learning models. Another goal is interoperability between systems, and between structured and unstructured content.
- Records management use case, making records discoverable for compliance and litigation purposes – primarily a risk management business value.
- Ontologist for the knowledge domain of digitized books, being able to extract structured insights and statistics from unstructured content.

Notes compiled by Bob Kasenchak, Ahren Lehnert, Stephanie Lemieux, Patrick Lambe.

Patrick introduced the session by reminding participants of the three main areas of business value discussed in Session 1:

- **KOS work to address Coordination issues** - supporting information flows, breaking down siloes, keeping functions aligned – discussions highlighted a critical competency of user, business and function analysis.
- **KOS work to address Organisation Learning issues** - supporting the ability to take in and integrate new knowledge from outside, with knowledge inside the organisation – discussions highlighted a critical competency of understanding search and discovery technologies, and UX/UI design.
- **KOS work to address Organisation Memory issues** – supporting recordkeeping and creation/maintenance of knowledge bases – discussion highlighted the competencies around domain analysis and content analysis.

Session 2 is based on the assumption that in order to deliver sustainable business value, the organisation needs to build and maintain sustained capabilities. We issued a survey end of March with a capabilities framework originally piloted in 2015 by Matt Moore and Patrick Lambe for the Innovations in Knowledge organisation Conference. Patrick introduced the preliminary high level results based on the 27 responses submitted so far (see session slides). Then we split into breakouts to discuss the implications of the survey, and what capabilities are most important for organisations right now.

Ahren Lehnert commenting on the Survey:

I'm very curious to see who is using blockchain and for what. Or, if not being used today, do you have plans to and for what purpose? Looking forward to the breakout discussions!

Notes from Breakouts:

Competencies around communications:

Technology issues are challenging. It is not simply a matter of understanding the technology, but of being able to explain it to business stakeholders. A lot of business users simply take the technology for granted, they do not appreciate what it takes to get the technology to deliver results. And it is very hard for us to communicate this to stakeholders.

It is also challenging to be able to communicate what KOS systems do and how they do it. There are some online educational materials and conferences, e.g. about knowledge graphs, but they can either be very simplistic, or too specialised. There is little support for being able to explain them to the business and why they matter.

Magical thinking:

Less mature organisations simply think they can buy the tool and think there are simple recipes for how to get it to “magically” deliver results. They often buy the tools before they really understand what functionality they need and what kind of design they need.

The “cult” of Agile (without a proper understanding of its fundamentals) is another form of magical thinking. Believing that structure and order will somehow emerge from following Agile processes and terminology and without any guiding architecture, scaffolding or vision. This also has political impact - leaders who voice scepticism about Agile can have their positions undermined because they are “not Agile-friendly”.

Technology first, design second:

It is very challenging to try to build a fit for purpose taxonomy into an existing tool, when there has been no research into the tasks and activities the tool and the taxonomy are meant to support. The principle should be that technology is meant to support the work, but organisations often take a “tools first” approach.

The pandemic has created two sorts of pressures. On the one hand, employees have been isolated from physical records and have to rely on uploading digital documents and records on their own - collections of documents have become very disorganised without central governance or

coordination, especially where there are cost cuts and staff shortages following the pandemic, and if the online platforms are not very sophisticated. On the other hand, a number of organisations have rushed into online platforms such as M365, without any real thinking, architecture or governance, just so that they can continue functioning. Now they are belatedly trying to catch up with compliance, regulatory and risk issues arising from poor records governance. This also creates pressures, trying to manage current workloads, retrospectively organise platforms, with tools that may not be fit for purpose.

The big picture - architecture, governance and change management:

In terms of large scale KOS implementation, e.g. an enterprise ontology, it is not just a matter of having the main KOS, it also needs to be linked to an enterprise architecture so that it works within the infrastructure that exists, and it needs to be capable of being contextualised or customised to specific user contexts. It can be challenging to coordinate this balance, especially as a lot of KOS/KM professionals may only work in the KOS space and may not be closely involved in technology implementations. There is an increasing need for governance here.

Many KOS initiatives start as projects and then as they start to show value and further promise, they need to be turned into long term, sustainable capabilities. Managing this transition from a well-defined project to a deeply embedded infrastructural capability can be challenging, as several of the prior points illustrate.

As we saw, organisations are often led by the technology, and KOS professionals need to play catch up - i.e. to figure out how to implement their KOS' within the infrastructure they have inherited, or are having imposed on them.

There are a lot of emerging technologies impacting the KOS space, including block chain, AI/ML, but there is a disconnect between what is available and is being sold (and bought) and the competencies to deploy them effectively - in terms of management decisions, understanding the governance implications and requirements, and how KOS' can deliver value to users through them. This also elevates the importance of change management as an essential part of KOS professional competencies.

Notes compiled by Patrick Lambe

Patrick introduced the session by reminding participants of the three main areas of business value discussed in Sessions 1 and 2:

- **KOS work to address Coordination issues** - supporting information flows, breaking down siloes, keeping functions aligned – discussions highlighted a critical competency of user, business and function analysis.
- **KOS work to address Organisation Learning issues** - supporting the ability to take in and integrate new knowledge from outside, with knowledge inside the organisation – discussions highlighted a critical competency of understanding search and discovery technologies, and UX/UI design.
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The themes that emerged from the session 2 discussion were:

- The need to build competencies around communicating the value of KOS, as well as educating stakeholders on what is involved in effective KOS work.
- The tendency of organizations to be led by inherited technology, or to make technology commitments before the KOS design needs are understood – KOS work is more effective when the design against needs drives the technology decisions, but in practice this sequence is often reversed.
- Executives tend to have a very superficial view of what technology can do – a form of “magical thinking” and often do not understand the work and resources needed to get good results from their technology.
- There is also a superficial approach to Agile, which has resulted in a lack of strategic vision and careful roadmap planning.
- KOS work requires the ability to manage the big picture of the enterprise architecture view, but also to zoom down into customisation decisions that are appropriate to specific working contexts. It is essential to be able to manage both macro and micro views in order to be able to retain buy-in throughout the organisation, at strategic and operational levels.
- We also noted the need to think about – and address – the culture of the organization. Diane Alexander referenced a LinkedIn article she had posted – “Leaving business culture to emerge organically and uncontrolled is a significant business risk.”
<https://www.linkedin.com/pulse/engineering-your-culture-diane-alexander-pmp-ssbb/>

Session 3 comprised a number of anecdotes from the panellists’ KOS development experience, showing both success factors and failure factors in building and sustaining KOS capabilities to deliver business value.

Notes from panellist anecdotes:

Bob Kasenchak, Factor:

The Good

- Internal client advocate to drive project success with budget, buy-in
- Information maturity sufficient to implement taxonomy/KM
- Able to demonstrate value (which can be tricky!) to stakeholders

The Bad

- Well-intentioned but underprepared to implement taxonomies, integrate systems
- Insufficient internal buy-in, resources
- Beautiful taxonomies shelved for “later” and not implemented (so cannot show value!)

The success story was a medical publisher - had internal person who understood the need for taxonomies, brought in resources and technology and got them implemented and showing value. The key success factor was having an internal advocate – who understood the need for taxonomies, resources behind them, and knew how to communicate this need to the business leads, including the need for governance, the work required to get buy-in, systematic approach with a roadmap, starting small, showing value, and then scaling, knowing how to integrate resources, and run demonstration projects to show value, gradually build up credibility and buy-in.

This is in contrast to organisations that leave the work up to the external consultants – they can bring expertise, but they don't have the internal connections to drive the organizational levers.

A common feature of less successful projects is where the organizations weren't really ready to deal with the project – they believed their task was simply to build the taxonomy and then everything would be fine, not understanding the need for governance, system integration, showing value, etc. They may have had an internal taxonomist, but didn't have the maturity of vision to see how the taxonomy has to work its way into the systems and get deployed, and they didn't know how to harness the stakeholders and build up buy-in. They may end up with a great taxonomy, but it's not carried through – they put the taxonomy cart before the implementation horse.

Ahren Lehnert, Synaptica:

The Good

- Executive buy-in for knowledge management and the supporting people, processes, and technologies
- Developed roles and processes independent of technology platforms

The Bad

- Disruptions in continuity (people, technology, budget) endangers the program
- Change management around platform and process adoption, particularly across business units

The Ugly

- Consultants made the program operation dependent on them (the dinner guests won't leave)
- Abrupt industry or market changes force layoffs and "unnecessary" programs are gutted

A key success factor in Ahren's experience, both as an internal taxonomist, and an external service provider, has been executive buy-in – which is not just lip service, but where the person driving is a campaigner - winning hearts, minds and dollars for what's needed to deliver the business value. Grass roots development works best, where the leader knows the organization inside and out, is a good campaigner, understands the value, and has the reputation and clout to get things done – for example, where he/she has the ear of the CEO. They may not know KOS work in detail, but they understand it enough to be able to hire the right people – whether they be consultants or full time employees.

A second major success factor has been where the KOS activities are baked into the work processes, this involves a lot of change management and communications work, i.e. getting the internal comms team involved.

A third major success factor has been to develop the KOS and governance, roles and processes independent of the platforms and technologies as far as possible, so that the KOS work has continuity across technology transitions.

Challenges have arisen where there is a strong champion, but where that person moves on or up. It is essential to provide for succession planning, with somebody who has the capabilities to continue the same level of work and commitment.

Continuity issues can also arise when there are budget cuts mid-project – you may have great metadata and taxonomies, but the platforms they are deployed on get unplugged or discontinued. How do we bullet proof our work against technology change?

Another challenge can arise in the selection of pilots and proof of concept projects – a POC may work for one group but it doesn't scale, because the other groups think their requirements are different. Selection of pilots or demonstration projects should always have scalability in mind as a factor.

An "ugly" risk factor can be where consultants can make the whole operation dependent on them - they set things up so that they are the only ones capable of running the system. This can become ugly

if they have to be forced out. So handover and succession needs to be baked into any consulting relationship.

Michele Ann Jenkins, Dovecot:

The Good

- Invested in technology and resources to support advanced knowledge graphs
- Robust taxonomies aligned internal language and created consistent definitions of what was what
- Create a single source of truth for critical company information with documented governance

The Bad

- Model & technology ended up being too complex for (still siloed) business units to make use of, ended up having to back track and 'flatten' things for easier use across the organization
- Continued to have issues with socializing the taxonomies so ad hoc vocabularies were still popping up (which then had to be aligned)
- Some systems were seen as too complex and mission critical to touch, so lots of mappings and "glueware" were needed

Michele's experience reinforced Bob's and Ahren's points about the importance of internal advocates – organizations can do a great job investing in technology and resources, but it is very hard to drive change from an external consulting position.

Doing change management at a distance is very hard – it is essential to have internal buy in and a strong, well-networked champion.

Knowing where to pitch the project to show results is also important. In one organization, they hired taxonomists, ontologists, created a team, procured the right enterprise tools started working systematically through the organisation, aligning and harmonizing vocabularies to create a single source of truth, with well documented governance processes and roles. But though they did engage with stakeholders, and consult them along the way, the KOS frameworks were too advanced and complex for what turned out to be a very fragmented, siloed organization. The culture had a tendency to create one-off systems not connected to anything else, and they didn't see how they could call on a single source of truth, nor did they really understand how they could exploit the central KOS work – the cognitive overhead in figuring it out was too high.

In the end, the team had to radically simplify and "flatten" the beautiful multi-dimensional graph, just so that it could be used in these disparate systems. And the culture was still producing these one-off vocabularies, so the KOS team felt like it was a game of Whack-A-Mole, where they would solve one fragmentation problem by aligning it, and then two more would pop up. The culture was like this because the organization was very fragmented and decentralized, and although this project had buy-in and resources, it was not front and centre of everybody's agenda, it was off at the side. And the work product was complex and sophisticated, so the immediate value was not easily visible.

Patrick Lambe, Straits Knowledge:

The Good

- Recognition of the need for governance to scale up on digital transformation initiatives
- Strong leadership support for findings of knowledge audit and taxonomy needs analysis, and design approach
- Project covers both design and implementation with "horizontal" and "vertical" implementation pilots
- "Project" status is structured and systematized into a new department with new staff recruitment

The Bad

- Leadership transition – new leadership have their own agenda, budgets and resources diverted
- Lack of support for the existing platform where the pilots are being conducted – over ambitious approach to a completely new platform development
- Mental model "search" not "taxonomy"
- Lack of commitment to taking over the taxonomy management

The Recovery

- The "see it through" the pilots approach pays off in strong operational support for the new architecture
- The larger platform ambitions are slow to show results, the positive taxonomy pilot results are used to maintain support

These insights were from a single major project with a large and complex government agency – also, like Michele's example, fragmented, performing many different specialised tasks, and where the

culture was to create a platform for every major problem encountered, whether there were overlaps or conflicts or not. So there would be multiple competing vocabularies and systems.

Their realization that they needed a more systematic and coordinated approach came with a series of digital transformation initiatives, where they realized that every time they had a good initiative, they were failing to make it scale, because they didn't have enterprise level governance and standardization. That was the prompt for the taxonomy project, and it had good leadership buy in. They had a clear sense of what KOS could do for the organization. The preliminary knowledge audit and needs analysis was so successful in generating a clear action plan, that they migrated what was a project into a department with staff dedicated to achieving results – results defined in helping the staff to perform the core work of the organization more effectively.

Hence, the KOS work included two implementation pilots: a horizontal pilot (different functions from across organization working on a common activity); a vertical pilot (where different groups worked to harmonize their practices within one specialized function of the organization). The pilots were meant to demonstrate whether they could create a consistent approach (vocabularies, templates, etc.) to common activities, whether organization wide or within a specialized vertical, all coming off the same enterprise taxonomy?

A continuity challenge arose mid-project. In the transition from project to department, they lost their champion (and their continuity of understanding and support). The new leadership had different priorities, and wanted to focus their resources in a new, technology-led direction; didn't appreciate or understand the value of KOS. So while the KOS project continues as it was already committed, it lost active management support, guidance, and buy-in.

While the project had provided for capability transfer to the internal team, this lack of support meant that internal resources were not allocated to the capability transfer in a timely way. Organizations can become dependent on consultants if they don't develop or hire the internal resources they need – this is important.

However this project began to recover some credibility, because despite the setbacks, the team worked very closely with the pilot participants in the operations, and worked hard to show real operational value for the key functions being supported. This produced a lot of ground level support from the stakeholder departments. Meanwhile the technology-led new direction was very slow to show results, so the KOS pilot became the poster child for maintaining leadership support for the new department.

In this case, despite the loss of continuity and strong leadership support, the persistence of the team in working the projects through to show operational value, did pay off because the value was there, and the participating departments wanted the outcome to be stabilised the supported.

Discussion:

Diane: It is really important to be able to source training for executives, change managers, architects, etc so they have an awareness of what's going on, how the technology works, and what's involved in KOS work.

Bill: Implementation is absolutely key – working the KOS system into real operational value in real systems. In fact, “change management” should really just be thorough implementation.

Ahren: In my anecdotes, the change management came first and paved the way for selecting and purchasing the technologies. They believed in the goal and then could agree on how to get there.

Michele: No one likes it when I say this, but the technology is the easy part ;-) – it is people and process that present the greatest challenges!

Diane: Desired culture change has to be designed, it doesn't just happen - has to be embedded into processes, and routines and governance.

Ahren: Culture is behavior and habits

Michele: It is important to acknowledge how hard change is, and how much effort and patient support it takes. Most people don't want to learn “a better way” they just “want to get my work done”.

Patrick: Change is harder when it is felt to be imposed from “outside”. In the pilots I described we used a participatory approach to get them to improve their own processes, where they already acknowledge they had pain points, then we showed them how the new KOS design support would support those improvements.

Michele: Yes, we can examine the processes and then show how the taxonomy can improve things. We can win people over to a new way of thinking.

Ahren: Addressing the culture can help ensure sustainability.

Notes summarised by Patrick Lambe, May 2022.

