Pulling Your Own Chain

Introduction to the Integrated Solution Network (ISN)

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We would also like to recognize the contribution of the Consortium for Service Innovation for creating the breeding grounds for the core principles of Knowledge Centered Support (KCS). Consortium-participating companies provided the framework of principles for KCS. ISN, embracing KCS principles, works with individual companies to put into practice the key learning of the KCS model and the newly evolved ISN model.

Pulling Your Own Chain

Support – doesn't have "Pull"

Support is not **designed** (i.e., its operational structure) to create the value it is in a **position** (i.e. within the demand chain) to deliver

The support organization is the ideal interaction point from which to build customer intimacy and insights to increase the relevance of our products in the market – except we are not designed to do these things. CRM and KM solutions together will not enable us (the support business) to do these things – because the problem is – we are designed wrong. Therefore, all processes improvements and technologies will only work for a short time and then we will find ourselves – again, resource constrained, crisis-driven, and with the demand chain pulling us apart.

Integration versus Fragmentation

Our operational model is outdated

Over the past 25 years, the high tech supply chain has moved from intelligence within the computer room to intelligence in the palm of your hand. Products are interdependent. Interoperability and environmental issues represent over 60% of our support costs.

While technologies have shifted dramatically, support has continued to use an operational model that breaks "problems" down into parts – consisting primarily of tiered resources, work queues, case management, call management, and knowledge bases / information of event-level content objects.

We are missing the key data points to manage the business

We are capturing and categorizing things and we are missing the connection between the things. Product and problem classifications in our case management systems are virtually useless because the problems happen between products, between vendors, and between organizations (e.g. professional services, support, engineering, sales, etc.) and because symptom and problems often belong in separate categories.

Relevance in the Market

Customers want it their way – they want to have influence

The market is shifting from push to pull. Customers' demands create the pull, not customer segments, customers! Customers want solutions (i.e. product and services) tailored to their needs. If we want to segment them at the backend according to common needs – fine, but don't categorize them as if they should have common needs. They don't want a one size fits all model and they don't care about elaborate service packages. The support providers get frustrated with the customers because they want exceptions to what we offer. They don't want exceptions. We just take exception to what they want. Customers, especially enterprise customers, want mass-customized solutions – fast, simple and within their context.

The dynamic (**Push**) is the opposite from we what need (**Pull**) to influence new capabilities

Our customer interaction model is still based on pushing – pushing content out, pushing training across, pushing people into taking ownership. The underlying models of case ownership, escalations, alerts, and product and geographic grouping have been fundamentally the same since the 1980s.

Push	Pull
Incentives	Inherent motivation – through an explicit, shared value proposition
Directives	"Pull" structures (i.e. Impact Algorithm, Regulation Algorithm, Assimilation, Relationship Metrics) – create the path of least resistance to enabling the best possible outcomes to occur
Ownership	Collective Accountability – recognizing no single person or thing can achieve the needed results. The players are part of the system, and each part of the system is responsible for performing their role as it relates to the shared purpose and needs of the stakeholders.

We are confusing activity with results

Support believes they don't have sufficient resources to cater to individual customer needs. Support has constantly struggled to maintain expertise and satisfy increasingly diverse customers. Resources are strained and many support organizations feel if the economy were healthier, many of their best resources would be walking out the door. We have pushed some people to burn-out. Each person is taking over 100 emails per day, handling crisis 24x7, and we are pushing them into believing it is "professional" to multi-task, and time-slice, and communicate in "sound-bites" such that no one has time to really think things through, much less understand or manage, because everyone is too busy.

Support is "part of a whole". Its relationship to the wholes drive its effectiveness

What if we have more than enough resources but we don't have the "right" focus. We have been so busy trying to optimize we have not noticed our slide past the flop-point. The structure is not scalable. The level of complexity has exceeded the fast, cheaper dimension. We need a real "system" that recognizes we are part of a demand chain.

The Flop Point

We are compromising our effectiveness because of our structure

The flop-point is the point at which greater effort expenditures begin working against you. Support's traditional model was designed to manage volume against time. Our old model is fine for a highly redundant, standalone product support business. But volume and time are not the active dimensions of the current technical/customer environment. The scale of volume coupled with expanding diversity within decreased time has created an environment of growing dynamic complexity.

We can use the old model for a period of time without realizing it is starting to work against us, but even in a moderately complex environment, we find that in a 9 to 12 months time, we see the effectiveness of the KM processes start to enter a plateau.

We believe our inhibitors are time and resources without understanding what the capacity of our resources are. We measure productivity primarily by assessing throughput (e.g. case per engineer). On average things look OK – but at an individual level, we see tremendous variation in performance. Profitability by product, team and individual contributions, and knowledge are unknown; these could have a dramatic effect on our capacity to perform. We can deliver what is needed, largely through our existing resources – but we must re-structure the way they operate. As we work harder to improve responsiveness and resolution times – we find we have little power to influence them. Our focus on these as key performance indicators is misplaced. We can only influence these, dramatically, by shifting our focus.

Our old model is based on laws of diminishing returns (i.e. the more resources you use, the less you have). If we were working with a finite product – rather than knowledge – an intangible product, the model could work. But our product is knowledge and that loses its relevance when it is broken down.

Tangible and intangible assets require different structures

Our business can be more effectively driven according to the laws of increasing returns (i.e. the more resources are used the more valuable they become). By integrating the case performance metrics with KM processes (not by adding new KM metrics), we can really drive new performance levels. For as long as we continue to "manage" it as if it were pushing information out the door, we will lose ground.

By managing the seemingly unmanageable assets (i.e. **Knowledge**) according to their inherent nature – we will preserve our resources and be able to manage what has historically really been unmanageable (i.e. **The Crisis-Driven Support Business**)

We cannot manage the current environment because we are lacking key understanding of the drivers within our business that are associated with complexity. The push model masks the complexity in one-dimensional product categories, metrics driven by numerical aggregates, one-dimensional skills attributes, individualized backlog queues, etc. The harder we push to improve these metrics, the more we compromise our ability to optimize long-term.

The irony is, if we stop pushing for better performance and create a method for people to interact meaningfully, the metrics will improve in a more rapid, dramatic, and sustainable form.

To understand what is "meaningful", we should consider the following key areas of the business:

Profitability

The burden of serving the customer should be gauged against the RELATIONSHIP. Often, we find the most demanding customers are neither the most invested nor the most innovative. Our most important customers can be negatively affected when resources are busy with less important interactions.

Handling requests should consider profitability and customer relationship. The technical person should not have to worry about it – but the system should bring resources in according to the "pull" of the customer. We generally know the level of contract in place *but* we may not be accurately tracking resource costs for different customer types.

The system should identify customer needs, target resources in timeframes and provide the context for delivering service according to the business relationship.

Expansion

The average customer usually gets a generic front and back-line organization with no structured customer affinity – they are organized by product/geography, or they get a dedicated account team meant to build a relationship. Very few companies have the ability to automatically integrate the two. Intimacy on an efficient, scalable, global basis is not sustained. Likewise, the ability to proliferate competencies about products or customers is very limited because it happens primarily through individualized interactions. We have difficulty achieving critical competencies about product and customer environments in a sharable and context-specific structure.

We need to build the RELATIONSHIP factor into our systems. The system must not just centralize and manage information but it must also create a context for understanding and recognition to grow as relationships do. The "maturity" of the relationship can be assessed by the level of context-building that has developed. This generally includes disclosure of environmental elements, historical account/problem views, recognized interaction trends, profiled points of contact, etc. Maturity enables cost-effective expansion of capabilities.

Accountability

Traditionally, individual work turns into teamwork through escalations. We often get more expert resources involved to find they know the answer – whereas the resources that were working the problem did not.

The vast majority of problems arise from interoperability issues – and the most effective perspective from which to resolve them is collaborative. Historically, we did not have a system to REGULATE the amount of resources appropriate for any given situation. Most often, when more than one person works on a complex problem, the process is more effective. Quantity of cases, and escalations skew our assessment of individual capabilities and we do not leverage the capacity of the whole workforce. Even when a KB is used, it is most often used as a reference rather than a collaborative problem solving tool, so the value of the "expert insight" is diluted.

When customer situations are mapped to "problems" we can associate either the support process, product engineering, sales, professional services or whomever needed to be involved in the situations as collaborators to establish a system of collective responsibility.

We work in a system largely of individual ownership. Performance measures and workflows do not realize the value and efficiency of focused collaboration and solution teams.

Productivity

Large variations in issue types cause many of the metrics to be skewed (i.e. some cases take two minutes and some cases take two months). Call handling time, closure, and cost per incident, can vary by orders of magnitude. Measuring trends by averages masks our view so measures neutralize improvement actions.

One escalation or severe issue can cost 100 times that of other incidents. In complex environments, 10% of the cases generate more than 50% of the costs. We should understand which efforts are worth the investment, either because of the customer relationship, or the opportunity to learn something of value for future customers. We should focus our efforts according to the IMPACT of each issue (from the perspective of each stakeholder).

Without a method to quantify value with proper consideration of the issue severity, product maturity and complexity and value of the customer, we cannot assess levels of productivity at a team or individual level.

Serviceability

Customer needs often have to compete with new product features for priority in product enhancements. The cost of getting or keeping customers is paralleled in this paradox. Support can espouse the need for product fixes or customer-proposed enhancements, but we generally do not do an effective job of qualifying the financial implications of our requests. Through analysis of customer investment, problem burden and opportunity/impact curves, we can provide a financial projection to support a rational prioritization of customer demand.

The RELATIONSHIP and IMPACT of current customer needs to financial opportunity must be part of the measures support can share with the business. This includes unfixed problem costs (operational and opportunity) and release costs.

Quality

Our goal is to resolve problems quickly – and move on the next one. Often, the analyst starts to solve the problem before gathering all the relevant information. Except in extraordinary cases, customers are conditioned to accept answers without much explanation. We get to the root of a small fraction of our issues. Consequently, problems persist in numerous releases. As new product releases incorporate more features and more diverse customer environments, they engage our products more broadly. Product issues resurface after they are believed "closed".

The resolution process has to distinctly differentiate framing symptom sets and assimilating problem resolution paths. The resolution paths lead a symptomatic situation toward root cause identification and ultimately to a product improvement initiative.

Capacity

The most frequent complaint in support is lack of resources. There is an inability to predict capacity needs, to keep up with capacity demands and to manage capacity across teams. The capacity is influenced by too many factors to be managed manually and too dynamic to be managed with a spreadsheet.

The ISN model enables capacity drivers to be explicitly defined and the influence between them to emerge and be modeled. Ultimately, the dynamics will increase capacity – because of optimized alignment of capability to demand and to solution improvements. The management metrics provide a projected view of the capacity trends over time.

We are trying to keep up in our current model, chipping away at the persistent backlogs and with increasing demand for more finite time slicing or multi-tasking. It is not our reported trends that eat our lunch – it is the escalations and breadth of demand.

The new model is energized by "pull"; the current model pulls us apart. We are in a position to change the value proposition of the customer to the business, but support's relationship to the business must shift.

Because we are dis-integrated

People are too "busy" because they are all working toward their own "sub-ordinate" ends.

If you challenged an employee who was bent on doing as little as possible, and that person responded that they were focused on maximizing their Return on Investment (ROI), how would you respond? Because in an absolute sense, they would be telling the truth – for a given income, the less effort expended, the better that person's ROI. Of course, the fallacy is an obvious one. We would quickly inform the employee that the "improved" ROI would not be sustainable, and that the best way for them to maximize long term ROI would be to ensure that they were providing at least $2 of clear value for every dollar they were being paid. And that is a pretty easy insight to extend throughout the organization – right up to the department level.

Welcome to the fragmented organization, a conglomerate of sales, services, and product development (marketing, consulting, field operations, etc.) – each with their own measures, objectives and cultures. When each optimizes their efficiency – have we increased value to the customer?

An economic model that reveals the value each interaction adds to the customer's "whole solution" should measure support

Support is pressured to reduce costs and increase customer satisfaction without a realization of the value it can optimally deliver. Without a shared purpose across the demand chain, management spends inordinate amounts of time orchestrating activities (i.e. "pushing work around").

Every part of the product delivery system is trapped into behaving as if it were a separate entity focused on unique metrics and deliverables. Support lies in the gap between Sales and Engineering, as Sales works to bring in more revenue, and as Engineering attempts to construct new value that can be sold. Each group has an important agenda and their success measures too often result in mutual compromise and purpose misalignment.

Support is the link in the chain to pull

The customer's needs can create an outside-in pull to align our focus

It is a great thing to know the customer's pain. Our agenda is not to sell them more but to enable them – the point where both customer and supplier arrive at a common purpose. And it is through this window of interaction that we can truly align purpose. The interaction brings the view of the "whole solution" into the supplier's business. From this point, we learn what the customer really needs and expects. From here we don't get a "Works As Designed' perspective – of course it works as designed – that's the point. What support knows is whether is works as it should – not necessarily what the customer wants – but what we as caring experts, can infer they need.

The two end points in the support process are not response and resolution – but customer value and whole solution – the demand chain should create the Path of Least Resistance between these two points

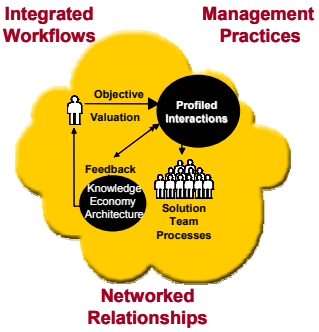
Support's window to the market's deployment of our products allows us to assess value in market terms. We can assess issues in terms of impact, enhancements in terms of financial opportunity, resources in terms of relevance. We are the missing link between demand and supply.

Through this significant understanding of customer application, we can influence and optimize the entire demand chain – but only when it is coherent and re-integrated. The disintegration that emerged from functional specialization (i.e. sales, development, marketing, consulting, support, etc.) was meant to optimize effectiveness – but inexorably led to enterprise mission dilution, a critical dysfunction not resolved by the CRM systems' "common view of the customer" or through CSAT surveys "voice of the customer". That is all good information but not the answer. Those things have potential to produce an ROI – but they mostly do not.

exploits the full range of value creation and provides enterprises with new options for improving and clarifying the justification for CRM and other IT or business investments"
– Kathy Harris, Gartner April 2003

The enterprise's real issue is Value on Investment (VOI)[i]. A focus which aligns customer value to our product offering – through the most reflective interactions point – is the answer.

The Shortest distance between two points – a Team



How do we become a solution team? We create the most direct line between two points – the customer situation and our product's value. The line becomes the path of least resistance. Support invites all relevant resources to the path. All value is assessed relative to a relationship to that line. All resources have their own operational parameters defined in their profiles. They are nodes in our network. They engage as their qualities become relevant to the demand. Any resource that is relevant becomes part of the solution team. The team operates in an environment that integrates KM, CRM, Collaboration (including profiles and reputation), and feed-forward performance metrics integrated within the workflows. This environment is the Integrated Solution Network (ISN).

VP Global Services stated: "Businesses have gone to great extents to prevent people from working in ways that come naturally to them. Collaborating, rather than trying to work complex issues out on their own, working on things they feel they know, sometimes discouraged as "cherry picking," are things we have traditionally created boundaries against. It is about time we created a business environment that actually works with people "

How does the ISN work?

ISN can use existing resources. It must qualify the resources into player roles (each role has defined attributes explained in the implementation guide). The new environmental structures enable people to work more naturally. It requires less effort and overhead to operate within the ISN environment. The traditional change management challenges do not emerge because our people find it just "makes sense."

The strategy restructures the environment in which these roles operate to create new capacity – rather than deplete it. The new operations focus the most relevant (including considering availability and contractual commitments) resources (including people and knowledge) on the most important work in demand – and resolves the key decisions to be made to make the work – "flow".

Points to point interactions are systemically coordinated according to relevance of resources to the demand

The primary business dynamics that enable this new model are:

- Impact (What to work on): Understand relative significance of pending work demand. Speed of process and focus of business resources is driven by the relative impact of the demand in relationship to the whole of outstanding demands.
- Regulation (How to resource): Regulate the selection and application of expertise to enable Just-In-Time (JIT) resourcing. Avoid time lags and prevent escalated situations ensuring each situation is handled by the most appropriate resource(s) – considering impact, availability, fit, learning and cost.

Key operational decisions are managed in the system so individual actions can consider the larger business perspective

- **Assimilation (What does it mean):** Understand the relationship between customer environment, products, problems, and symptoms so we can address each situation from the highest order leverage point. Process value mis-fits out of the system to continually increase product to customer value.
- **Relationship (What did we get out of it)**: Understand relevance of value between active work elements (customer situations, problems, products), contributions (individuals, team) and "whole value" – it works as expected.

Impact – What to Work On

When people know explicitly how a particular result will be viewed by the system, they can choose how much they want to get in the game for. Players can act with greater autonomy and confidence. Do I want "printers for 200" or "database systems for 1000"? It may depend on my competency, how tired I am, or if I am anxious to learn (in which case I would share the value of someone helping me). I will be more successful if I can choose, than if problems are tossed at me without being able to consider how they fit for me.

Determining the relative importance of requests requires integrating several perspectives. For example, at a granular level, a customer can rate importance based on the severity of the problem to their operation and the urgency with which the customer would like it fixed. In fact, customer-determined importance is frequently used to set work priority, but does not consider other important perspectives. A meaningful, balanced importance valuation should also factor the following:

The relative importance of every incident weighs into the system to prioritize focus from multiple perspectives

Customer value ($) – How important is this customer relative to other customers? Determining an overall organization view is 'simply' a matter of asking enterprise leaders which functional customer value perspectives should be included in an overall assessment. For example, as an initial valuation some Industry Influencer Forum[ii] (IIF) members have differentiated Strategic or Premier customer from named or basic customer. And, an added operational weighting might consider extra value for customers with a sale pending and with consideration to the customer "temperature" (volatile environment, upset person etc.)

- Product value/Severity (!) – How important is the product or operational impact from engineering and customer viewpoints? Product families with significant strategic importance should be ranked higher than those at end-of -life, etc. and severity of the issue can be considered as it affects the customer. IIF members are initially using the current severity values contained in their CRM systems.

- Recognition Value (?) – Problems are unique sets of symptoms as experienced by end-users – which can be readily aggregated by type. How relevant is this problem to the system? New problems have significant incremental value to known problems (known problems are defined as those that can be referenced explicitly in the enterprise knowledge databases). Similarly, problems that are unresolved might have higher value than problems for which solutions are known. IIF members are initially gauging this value by using the relevance level designated in the knowledge base search.

These 3 are factored into an overall Initial Incident Value[iii] (IIV). For example:

Weighting 100%= 1000 pts	Evaluation		$ (30%)		! (50%)				? (20%)		Incident Index
			Business Value		Severity		Customer or Product		Symptom Relevance		
	Int. Incident Value (100%)		Int. Incident Value (100%)		Int. Incident Value (60%)		Int. Incident Value (40%)		Int. Incident Value (100%)		
Key Indicator	Customer Framing		Customer Frame (Vantive Flag)		Symptom Framing		Customer Framing		Framing Relevance (Content/Symptom)		
	Sales action	500	Premium 100%	300	Down System / Data Not Served 100%	300	High 100%	200	Relevance 0% - 20%	200	
	Sales component is excluded from initial weighting of Incident Value		High 67%	200	Service Disruption 67%	200	Medium 75%	150	Relevance 21% - 60%	150	
Situational Examples			Core 33%	100	Query / Issue 33%	100	Low 25%	50	Relevance 61% - 100%	50	
Incident A				200		300		200		50	750
Incident B		500		300		200		150		50	1,200
Incident C				100		100		50		150	400

The IIV diminishes over time to create a pull within the system. The rate of erosions depends on the thresholds defined for each level of impact – and according to expectations set in the service delivery commitments.

Regulated Collaboration – How to Resource

Singular ownership for complex situations decreases accountability for RESULTS as individual ACTIVITY is perpetuated

We persist in believing one person must own a problem/case to be accountable to the customer. We have technical tiers to handle cases and if anyone cannot resolve it – it gets escalated. In an escalation, sometimes we change ownership and many times we do not. But almost always we encourage the front line to try to deal with it even if they are not the most appropriate person. Generally, we believe if we can close it at the front line, we are more cost-effective.

But what if it is more cost-effective to fully understand the situation and conclude it quickly, regardless of which resources need to be brought in? We might think we do not have enough resources to bring them in every time a new issue comes up. But what is the alternative? We either have to bring them in later, during an escalation, after the customer has waited or we deal with the problem at a lower cost point but we do not necessarily conclude it in the optimal way – perhaps causing the problem to recur and perhaps costing us a customer.

It is not a CHOICE between individual and collaborative work, it is REGULATED INTEGRATION of the two

The ISN engages resources according to impact value and relevance of the resource profile(s). Higher impact issues engage more resources more quickly. Assisting an agent in the incident recognition effort is a function of incident value and elapsed time – instead of requiring the agent to cry for help. ISN incrementally introduces players to a collaborative problem solving process until the problem is recognized, resolved, and removed from the support workflow.

STRUCTURED and UNSTRUCTURED collaboration produce different levels of results

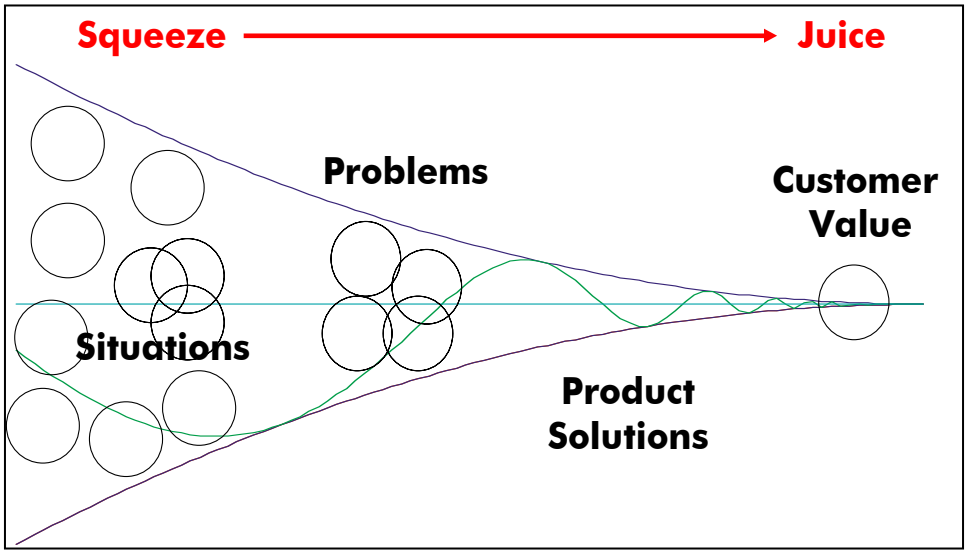
This concept is not new. People already collaborate informally. What is new is the capability of IT infrastructure to coordinate team assignments and record outcomes in real time. Once the importance of an incident has been estimated, a collaborator function can act on organization-determined "regulation timing." The system can feed recommendations of candidates to collaborate on a problem based on a continuously updated scorecard of how well agents have worked together before and under what circumstances.

IIF members have validated an initial algorithm for engaging resources in the collaborative service delivery workflows. The regulation of the process ensures relevance by balancing urgency with appropriateness. Collaborative processes that shift from individual to dynamic team processes can tend to barrage people with notification emails that distract attention and diminish the "pull" as people learn to ignore too many interactions.

Assimilation – What it Means

We experience problems because our products have inherent limitations and our customers' environments have inherent complexities. When you put one with the other – strange things happen. The things that happen can be attributed to either the product or the environment (or the customer – but that really part of the environment). When the situation is reported, we cannot easily determine what is causing the problem, so we treat it as a new situation. We end up processing many situations without associating them with root problems. As we processes the volume is distinct situations, our resources are squeezed.

The "Squeeze" reduces the 1000's of situations to 10's of problems per product solution. It normalizes the problem space to align customer "situations" with "whole solution" value.



By converting the **Problem Solving** focus to a **Solution Alignment** focus, we create capacity in the system

Prompt recognition of when an incoming situation is really a manifestation of a known problem, allows us to shift resources from the front end and apply them to removing the problem from the technical solution we supplied the customer. And their value can be closer to 100% over time.

For example, at a well-known telecom company, the support organization was getting hit with 2,400 cases per month on a relatively new product. The front line could not solve the myriad of problems and required the back line to address the problems using their networking expertise.

Over a matter of months, the groups developed an unhealthy disrespect for each other – secondary support believing the front end stupid, and the front end believing second level arrogant. As call volumes grew, the tension between them grew with them. When the two finally came together as a last ditch resort, and mapped incoming situations to underlying problems, they found that there were really only 13 problems. If each situation was diagnosed according to specified logic, each could be dealt with according to one of the 13 problem profiles, and resolved promptly. The front line was educated on the 13 paths and was quickly able to recognize incoming cases for a fit to the parameters of "known" problems. And the back line was freed up to identify ways to remove the 13 problems from the system – the Juice!

In an implementation, 2,400 complex situations were normalized into 13 problem paths, which could be resolved at the first point of contact

Of course, most support managers believe their technical environment is unpredictable, complex, and has a low level of redundancy. If that were actually true, the "experts" would have no better ability to resolve problems than new agents would. It is precisely because there is redundancy that expert experience enables recognition of the situation and association to a problem. The unfortunate reality is that the recognition happens in their heads, late in the process – and the connection logic does not often get pushed to a better point in the demand chain. So, if you rely on expert resources – you should be pressing for more recognition in your process.

IIF members are finding when the volume goes up – we have to squeeze back by assimilating the situations into problem paths. Our goal is not to solve each case quickly or to prevent an escalation but to do whatever it takes to pin the situation to an underlying cause and related resolution paths and then to eliminate the path from our line to the customer.

Relationship – What's the value

If our aim is to increase our relevant value to the market, and we believe that learning from important customer relationships is a meaningful way to increase relevance, then how should we measure our processes and people's contribution to results?

The Process Measures

To create sustained improvements, we cannot only design a system to **measure** benefits – we must design a system which **integrates improvements** as feedback within primary workflow process

Over time, we have not significantly improved the two most popular measures (response and resolution) without adding resources. In many cases, adopters of knowledge-centered strategies have improved resolution time, but after 9 to 12 months, the resolution rate creeps back up. Why? – Because the organizations did not integrate knowledge process metrics WITHIN the business metrics – they have been appended. ISN integrates "Improvement" (i.e. I Loop) metrics within the problem solving workflow (i.e. the "A Loop" process) – making the increasing value focus sustainable.

The process points are these:

Process	Do we do it?	Status
1 – Response	Yes	Connect to appropriate resource
2 – Recognition	Need to Start	Relevance of situation to Problem Path defining a level of recognition, which determines how the organization should respond to bring the situation to conclusion
3 – Relief	Sometimes we do – and we should	Provided Pain Relief or Potential Fix
4 – Resolution	Yes	Customer considers it closed

5 – Removal	Need to Start	Having identified the underlying cause- we have removed it from the support workflow (either published on web, put into engineering queue – with a commitment and ETA to fix, or other action that is outside supports responsibility)
6 – Renewal	Need to Start	Adjustment of the current structures to enable the new capacity

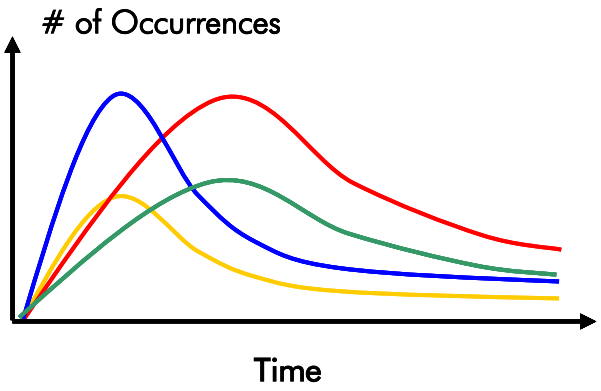
These 6 R's create new dynamics in the service delivery process.

Outcomes of the Process

Through Assimilation, we can determine the value of support in numerous dimensions. For example, we can determine the cost of unfixed problems. We can extrapolate the cost using the impact and related resolution costs along the lognormal curve of occurrences over time.

The **impact** of unfixed problems can be assessed to enable engineering to make decisions about releases, end-gaming releases, and work priorities, which will prevent disruptions to the customer base. The most **severe** issues are not always the most important

The cost of problems could be fed back into development for enabling a more insightful view of serviceability enhancements. The cost of product releases can be made explicit to better assess the profitability of each release.



Accountability and Contributions

We don't need another hero. Heroes hang onto the events / accomplishments of their own (i.e. a sports hero) – even when performed selflessly

Today, people often get promoted because of who they know and how much visibility they can create. Often, a single event can create that visibility. But perversely, people who contribute effectively over time usually do not draw attention and are not considered for new things. The person who is known for doing new things is considered for the next new thing. And consequently that person tends to be overused. And others fail to learn. It is not possible for management to know when someone is ready to learn something new.

We need value leaders

Individual and team actualization is enhanced by building knowledge because through others' interactions, the value created is re-actualized many times (i.e. a relevant author)

People are not recognized for preventing critical situations – they are recognized for reacting to a critical situation. Many people can go day after day preventing critical situations while only those working critical situations are recognized. Which is really more valuable? If we have a sustained a record of building a solid performing history with a valued customer – that should be valued.

What propels the support agent towards knowledge contribution, when the organization does understand how to value it – only count it? Only explicit leverage and reaction to knowledge created will instigate a vested interest in the production of it. We do not want to encourage knowledge generation by measuring volume – more is not better.

The true measure of knowledge lies in its application to the optimization of the enterprise demand chain. Through valuation of the knowledge in terms of its application, we can credit value contribution to the contributors. Can we always know who *in a collaborating team* contributed what *part of the* value? No. Should we care? No. If we are on the team that scored – we scored.

Over time, individual performance that falls outside the team performance limits will become visible and the team should then have the capability to internally align by adjusting recognition for poor players.

Our current system for assessing performance is not adequate. Consider the following real-life example:

Support Agent	Cases Per Week	Resolved <5 days	CSAT Level
1	25	>80%	Medium
2	15	70% – 80%	Medium
3	15	>80%	Low
4	20	60%	Medium
5	7 – 8	70%	High

What can we tell from this picture? Not much really, and most managers go on personal knowledge. The metrics are too bland and one-dimensional. They only let you know when things go way off-track.

What the ISN system can tell us is:

Agent 1 – Handles easy (low impact) cases. He does not escalate. He is a cherry picker (only works on what he knows). And he does not always solve problems consistently (may go down the wrong resolution path).

Agent 2 – Works difficult (high impact) cases. Works with technical proficiency (achieves high recognition level early in the process). Is not a good communicator (lag between relief and resolution).

Agent 3 – Handles easy (low impact) cases. Poor communicator (low CSAT) was evident with current system.

Agent 4 – Handles new problems (high impact and low recognition). Consistent collaborator (team scores).

Agent 5 – Handles medium complexity (medium impact) cases. Is a good communicator and helps others in solving their cases (feedback scores).

The Incident Values driven in the process tells us the importance and complexity of the cases worked. The reputation profile builds knowledge about what an agent can work on effectively. Their contribution builds equity in the system (accumulates points driven by the incident value such that it becomes more valuable to have the knowledge act for the agent than to have him always involved. Relevant knowledge scores for the agent or team when it is used.

Sample process

Old Model

Cases are received in product/ geographic queues

In this model, most resources are working on solving problems (except for special cases). This is an assisted support example.

1. Reception

The first technical resource in contact will attempt to solve the problem normally with just the information collected at that point of contact

A call comes into Level 1 – although Level 1 agents understand the problem the customer encounters, they do not have the immediate technical capability to solve the problem. They have breadth but may not know the best approach for handling a specific in-depth problem. They may consult a distribution list for mass emailing or try several things with the customer.

2. Queues

Cases sit in queue until an escalation threshold is reached or the agent feels totally "out of range"

Most cases not resolved within the first day sit in queue for 4 days (because that is the next measurement threshold). Level 2 engineers are supposed to advise the agents to resolve the customer problem without escalation to a Level 3 escalation engineer (10 fist line agents to each level 2 agent).

3. Escalations

In order to escalate, agents must show due diligence to solve the case. Most often, case information is not complete due to a lack of process and understanding.

Re-engaging the customer typically has a 25% success callback rate. Much time is spent reconnecting.

Upon escalation, the case is handed to a Level 3 engineer to re-engage the customer for troubleshooting. Once resolved, the Level 3 engineer will solve the problem and close the case. The Level 1 and 2 engineers do not likely know the resolution path the Level 3 person took to ultimately solve the problem (they will document a fix but not the whole logic used).

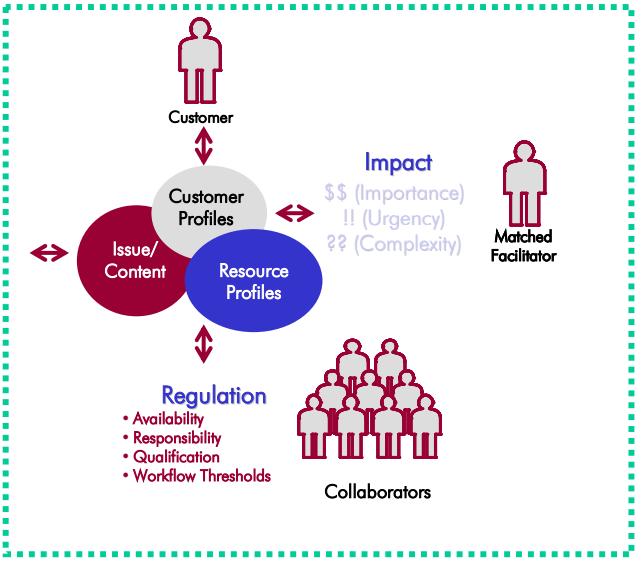
Front line agents don't learn complex issues – except on their own, through trial and error (expensive) or through informal mentoring

If the caseload starts increasing, escalations increase putting highly knowledge and expensive resources on the transactions of the company. Level 2 engineers represent a huge distribution of skills in the same role to handle the same influx of problems.

New Model

1. Reception

Dynamic profiling allows us to meet our customers' needs: "When I have a problem, I want to reach someone on the other end of the phone who knows who I am, why I am calling and knows how to help – without me having to repeat myself."
– Customer Interview, June 2003



When the customer initiates the request, a pre-qualified support agent designated as a Facilitator will handle the first contact into assisted support. The system recognizes the customer and their records – ready to track the resulting interaction enabling the ISN system to learn what is relevant for the customer.

How does an Incident Value contribute to a resolved case?
By recognizing the impact a trouble has in the customer's environment and calculating a relative value representing the impact, relevant support agents are motivated to quickly prioritize their involvement in case work to provide meaningful support and build reputation for solving cases quickly. Engaging in a case with a high Incident Value means the right resources are engaged at the right time to resolve the case quickly

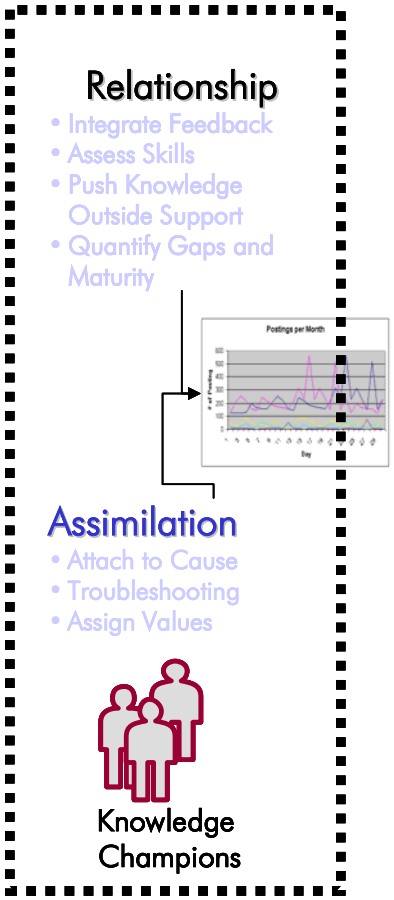
Dynamic profiling[iv] of customers and support agents ensures the immediate response and recognition of the customer's problem will be handled by the most relevant Facilitator. The "System" will look at the Facilitator and customer profiles (e.g. system admin, exchange background, NT, etc.) and match them using qualifying parameters (i.e. language, technical skills, customer knowledge, account experience, product, availability – all contributing to relevance to customer). This is an intelligent system to choose the best person – so the customer can begin a peer level interaction (i.e. some customer have more experience than many of our own people and resent being questioned by a less experienced person).

The Facilitator acts as the concierge for service delivery and is responsible for managing the interaction to reveal the value of Impact through situational framing. Framing includes documenting the issue through severity, urgency and symptoms to determine just how much this problem means to the business and the customer – a relevant prioritization mechanism. The Impact calculation systemically assigns an Incident Value (IV)[v] to the case to create inherent relevance of the support agent match the customer.

2. Collaboration

If, through the Facilitator's framing, the system does not recognize a connection to a "known" problem path, it will engage Collaborators according to the business rules already established for the impact values. Regulation of the collaborators – with an algorithm described earlier in the paper, enables the ISN system to balance resource needs with urgency.

Two particular Collaborators necessary in the ISN system are the Generalists (who solve problems with inductive logic) and Specialists (who solve problems with deductive logic). The system or the Facilitator invites Generalists to participate in a customer case using the same algorithm used to match the Facilitator to the customer – again, ensuring the most relevant resources work on the customer case.



3. Escalations

Escalations are exceptions because specialists are systemically invited to participate when needed – depending on the level of recognition achieved and without waiting on time lags. Collaborators are invited as advisers not owners. The Facilitator can override the system and add people if needed. Collaborators can accept or deny an invitation in the knowledge that the ISN system is tracking their actions to build systemic understanding of the human dynamics.

4. Integral Focus (integrated workflows)

The Incident Value acts as a score, initialized by the Impact determined at the first response to the case, and diminishes over time to create a "pull" for acting quickly. The final score is shared between all relevant contributors. The scoring players also score whenever the knowledge created through this incident is reused in subsequent interactions. This "scoring" creates a reputation system within the ISN system to ensure agents are doing the right things.

The direct customer problem-solving process addressed here encapsulates the Act Loop[vi] (or "A"-Loop) of the ISN system. At the end, the Facilitator structures the collaboration thread and closes the case with the customer – but keeps it open in a pending status until the solution is processed within the ISN system's Improve-Loop[vii] (or "I"-Loop).

The main role of the "I"-Loop is to assimilate knowledge and recognize the any relationships between content, problems, agents and customers. A specific role is necessary to make the "I"-Loop successful in providing feedback to the "A"-Loop – the Knowledge Champion. That role requires a highly proficient person to ensure the organization's intellectual capital is optimized through maintaining strong content management processes, providing feedback consistently to "A"-Loop, identifying problem patterns and removing root cause issues from knowledge environment.

As an example, Knowledge Champions work in the "I"-Loop to sample closed cases attached to an existing knowledge path and finalize any new knowledge, which must be assimilated. New knowledge requires Meta tags and attention from a related group (i.e. engineering, sales, support planning, etc.) so the problem can be eliminated from the support workflow. Knowledge Champions give feedback to all collaborators – establishing the final score or IV for the incident.

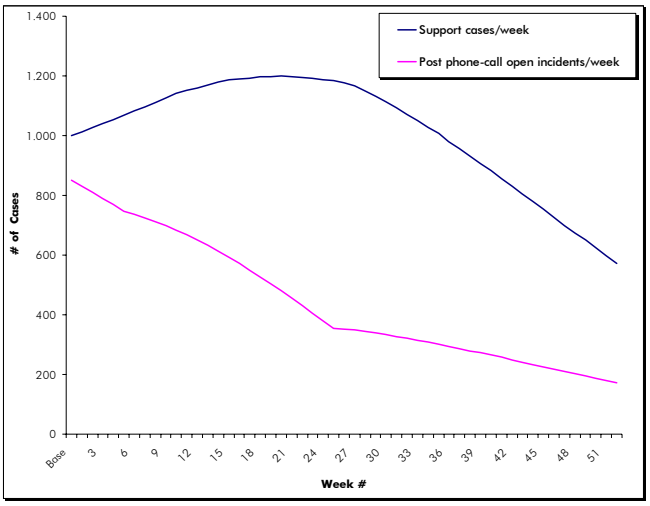
Over time, people whose profiles show a demonstrated proficiency level of a Knowledge Champion achieve higher scores for the value of the problem space they are associated with. Their goal is to mature the value of the problem space by managing the knowledge in the space and incorporating it back into the "A"-Loop for other Facilitators and Collaborators to utilize.

There are values and then there is value

The ISN's value structure creates a focus for stakeholder value, and minimizes focus on activity. The proclamations of call volume throughput or thousands of solutions reused are unimpressive in this context.

Through integrated workflows, case volumes and backlogs decrease. People focus on higher value results – such as improving the Whole Solution Value and understanding of the customer.

This workflow depicts a projected decrease in remedial activities to enable a more value-added focus.



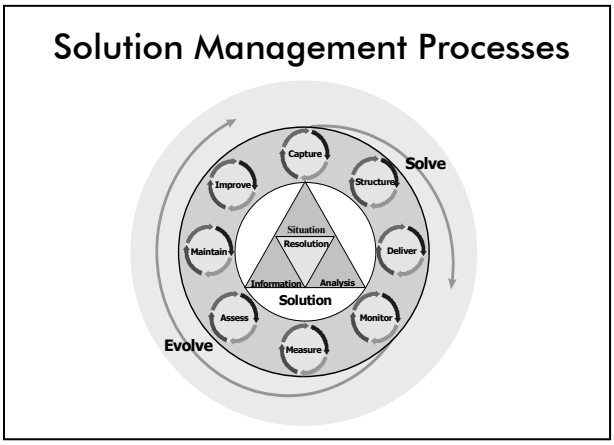
The ISN approach does not seek to "get" people to create or use knowledge. They will continue to do what they always have done – that which makes the most sense to them in the moment.

Given clear connection between decisive behaviors and recognition and reward, they will drift easily towards the ISN structure. They will find it more meaningful to work on things that are valued rather than have their work counted like milk bottles on an assembly plant. They would prefer dealing with a customer they can satisfy than one who has to wait on an escalation. And, they will appreciate their knowledge being put to work for others in the future while still creating recognition for them.

The connection between Knowledge-Centered Support℠ (KCS) and ISN

KCS intersects with organizational dynamics where knowledge and performance management (business and individual) meet. Organizations developed metrics about KCS. These include: 1) participation, 2) solutions created and reused, time to relief and resolutions and 4) contact deflection.

The original KCS model looked like the picture on the right.



From the start, it stated that capturing, structuring and reusing knowledge was the FIRST step, monitoring, measuring and assessing was the SECOND step, and maintaining and improving was the THIRD step. These map to the ISN 3-dimensional workflow loops. However, KCS created little connection between the three steps, and consequently most organizations expended their energies in the first step. ISN is an implicit recognition that all three areas of KCS focus are interconnected aspects of a common purpose, and that a properly connected knowledge-sharing system will become self-organizing and self-perpetuating. ISN is the evolutionary successor to KCS.

Most KM strategies acknowledge the need to change the focus on metrics (i.e. move towards a knowledge economy), to engage people in socializing their tacit knowledge (i.e. foster collaboration), and to enable systemic improvement processes (i.e. the "I" and "R" loops). They do not tell you how to do it or what technologies enable it according to the principles. ISN embodies the principles of KM/KCS and operationalizes them within a balanced framework. It catalyzes the elements of the environment to meet the daily demands of the business as a result of new organizing principles. These principles are organic, that is, they conform to the natural way people like to work.

Call Center	Knowledge-Centered	Networked (ISN)
Work each case from individual knowledge	Work with own expertise, KB, and with collaboration off-line (consultative information mostly not captured)	Collaborators brought in Just-In-Time according to situational parameters to create knowledge
Metrics based on time and throughput (volume processed)	Metrics include content creation and reuse	Metrics focused on stakeholder impact
Information captured in case notes	Structured statements, taxonomies, or categories	Integrated workflow loops influence content to form clusters
Reports	Reports and Dashboard/Balanced Scorecard	Focus Views

The ISN structures value through metrics and recognition. When the organization realizes the connection between its knowledge and its profits – then the values of the people within it, resulting from their behaviors and interactions, become consistent and pervasive.

ISN is not a revolutionary model. It is an explicit representation of what some very smart people already know and very experienced people already recognize. ISN is enterprise knowledge governance expressed in a form we can actually implement, analyze, and improve over time. By approaching it as a shared industry model, we are not only implementing but we are learning to use the underlying principles to transform the capacity of our service organizations. We have an opportunity to move beyond the imposed local improvement of KCS and begin the systemic convergence of our latent capabilities. ISN is the way.

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[i] Harris, Kathy. "The Value Proposition of KM in CRM." Gartner Report — COM-19-8084, April 2003.

[ii] Industry Influencer Forum is further described in Industry Influencer's Forum Charter, OutSights, Inc., 2003, August 2003

[iii] The Initial Incident Value further described in "Focus Engine Overview," OutSights, Inc., 2003.

[iv] Facilitator, Generalist and Specialist roles further described in the "Resource Management Guide." Outsights, Inc., 2003.

[v] Incident Value further described in "Focus Engine Overview," OutSights, Inc., 2003.

[vi] Act loop further described in "Interaction Management Guide," OutSights, Inc., 2003.

[vii] Improve loop further described in "Interaction Management Guide," OutSights, Inc., 2003.

Appendix – Adoption Overview – Sample

Time	Activity	Resources	Deliverables	Considerations
Phase 1 – Initialization				
Week 1 5 days Date:	**Business Initialization – Positioning and Assessment** 1. Review existing documents and performance objectives. 2. Describe the landscape of the organization, key players, and leverage points. 3. Validate the scope of work needed and ensure the approach recommended creates results.	Core Team OSI Business Leaders	Adoption Roadmap	At this stage, the level of readiness and scope can adjust the timeline considerably.
Week 2/3 5 days Date:	**Plan Development – Feedback Processes Framed** 1. Develop plan and preparation for the design stage (work is prepared). 2. Identify resources. 3. Identify key content sources. 4. Identify infrastructure needs. 5. Determine the methods for assessing progress toward maturity.	Core Team OSI Business Leaders	Resourcing Model	
Phase 2 – Design				
Week 3 3 days Date:	**Content and Value Tagging** 1. Gather historical data from case management systems and related content sources. 2. Perform correlation to identify entities, problem classes, people and participation in problem resolution process. 3. Conduct maturity survey. 4. Identify product environment hierarchies, problem classifications, releases processes, customer profiles, and diagnostic information to be used.	IT OSI	Meta Data Model Maturity projections (optional)	Ensure the right content and people are identified for inclusion in the adoption strategy.

Week 3/4 2 days Date:	Define Communication Framework and Part of Business Initialization 1. Create a communication framework and execution plan to ensure consistent messages are reported to the organization from the Core and Nucleus Teams as well as the Adoption Sponsors. 2. Outline interaction methods and medium and include IT as required.	Core Team, OSI	Communication Framework	OSI starts the ramp up with executive sponsor. Responsibility is passed to program lead at conclusion of design sessions.
Week 2-4 15 days Date:	Prepare for Design Sessions 1. Review all dimensions of model with key leads. 2. Socialize concepts and test for acceptance. 3. Map timeline for possible implementation of any IT dependent elements. 4. Test for participation fit in design session. 5. Schedule sessions' logistics. 6. Begin initial –level communication plan.	Core Team OSI	Readiness Review Project Plan	
Week 4/5 2 days Date:	Implement Communication System 1. Provide Intranet and Email group to engage ideas, feedback, and sharing of information.	IT Core Team Nucleus Team	Intranet Forum	Responsibility for on-going communication is passed and automated for the formal methods.
Week 5/6 2 days Date:	Management Alignment – Performance Management Model Development 1. Create an actionable level of common understanding of ISN and the adoption program with business leaders and operations managers. 2. Define performance parameters by mapping the framework with existing business and systems indicators. 3. Complete Strategic Framework to align drivers, outcomes, indicators, and strategic objectives. 4. Evaluate and refine job descriptions. 5. Discuss augmentation of compensation system. 6. Discuss and define operational models. 7. Define Nucleus Team candidates and their roles/responsibilities. 8. Examine ways to determine value associated to each incident within the service delivery process (Defining the IIV — Initial Incident Value).	Core Team OSI Management and Team Leads	PM Guide Scoreboard/ Dashboard Mock Up	HR representatives are recommended participant to help define value based roles and any subsequent compensation structuring. In preparation for engineer level workflow discussions. Two-hour sessions with management groups.

Week 5/6 2 days Date:	Interaction Management Model (Workflow and Process Models) Design 1. Create an actionable level of common understanding of ISN and the adoption program with support individuals (key engineers and analysts). 2. Explore, outline and define optimal workflows and processes to create efficient and effective service delivery. 3. Examine collaboration as a mechanism to facilitate workflow. 4. Map new processes for end-to-end incident handling. 5. Highlight tools and resources primarily used during workflow processes.	Nucleus Team OSI	IM Guide	2-hour workshops with engineer level teams and some management. In preparation for technology requirement compliance testing and usability in the workflow.
Week 5/6 2 days Date:	Knowledge Management Model (Content and Resource Relevance) Design 1. Create an actionable level of common understanding of ISN and the adoption program with support individuals as it relates to the content and resources used for performing service delivery. 2. Identify high-level content structures, content locations and access restriction levels (audience level views). 3. Identify content map considering current categorizations and structures used in existing problem solving models known or discovered. 4. Map improvement workflows for maintaining knowledge.	Nucleus Team OSI	KM Guide	One day workshop With SMEs In preparation for IT level content mapping and security model implementation.
Week 5/6 2 days Date:	Resource Management Model (Personnel profiling "Mapping individual relevance to needs") Design 1. Create an actionable level of common understanding of how a persons experiences, training, ability to learn, willingness to participate, and contribution to the service deliver process can impact an ISN strategy. 2. Explore and define personnel profile templates and a method by which periodic updates take place – in addition to the systems automatic profile updating. 3. Ensure initial player selection is based on profile definition. 4. Define update and publication process for profile. 5. Explore and identify virtual teams. 6. Explore, identify, and define key feedback process parameters.	Core Team Nucleus Team OSI	RM Guide	2- hour workshop with Nucleus teams in preparation for the IT and OSI mapping of skills, availability and content in the knowledge architecture.

Week 5/6 4 days Date:	**Knowledge Collections and Security Model** 1. Perform content mapping according to findings. 2. Define seeding and gathering process. 3. Assemble content for product lines. 4. Define and Validate type of content. 5. Review content collections and implement a security model to support initial interactions. 6. Determine the breadth of participation in the initial adoption.	OSI IT Core Team	Security Model	Access across organizational boundaries must be effective.
Week 5/6 2 days Date:	**Decision Point 1 – Feedback from point 1** 1. Readiness evaluation to assess the current commitment and readiness. 2. Processes are documented. 3. Resource profiling strategy is complete. 4. Resources are engaged. 5. Communication plan is validated and exercised.	Core Team OSI	Readiness Survey	A feedback session ensures alignment is established before take off. It should be done as a 360-degree view.
Phase 3 – Modeling				
Week 6/7 5 days Date:	**Technology – Establish system functional requirements (Jointly)** 1. Create business requirements to give to IT. 2. Align key performance drivers to business requirements to ensure the right things are built.	IT Core Team OSI	Functional Requirements Document	Expected that model will use existing technologies as long as fundamental capabilities re present

Week 6/7 5 days Date:	**Define scenario tests using process models, content, resource maps** 1. Define scenarios to be tested using process models from the Knowledge, Interaction and Resource Design sessions. Prepare technology. 2. Gather feedback on process and content fit. 3. Verify scenario definitions.	Nucleus Team OSI	Test Plan	Requires completion of Knowledge, Interaction, and Resource design sessions from 3rd week.
Week 8 2 days Date:	**Test – Resource/Scenario Sessions** 1. Profiling elements using predefined scenarios to exercise the system resource relevance capability. 2. Problem routes. 3. Workflow Process and Environment reference. 4. Document current state and maturity projections.	IT chosen vendor, IT, OSI	Capabilities Status Report	
Week 8 2 days Date:	**Refine the Processes** 1. Adapt the technology requirements as necessary. 2. Ensure the right resources are enlisted to prototype.	Nucleus Team, IT chosen vendor, IT, OSI	New version of Process documents	Document and testers are to be used for Training
Week 8 1 days Date:	**Decision Point 2** 1. Readiness evaluation to assess resource capacity and infrastructure. 2. Production should only commence once everything is in place to support a successful adoption. 3. Adoption Champions selected.	Core Team OSI Nucleus IT	Status Report Executive Message	A feedback session ensures alignment is established before take off. It should be done as a 360-degree view. Executive roundtable.
Phase 4 – Production				
Week 9 1 day Date:	**Kickoff – Welcome larger audience** 1. Welcome new and willing participants using the method identified to encourage people to electively participate.	Management	Overview presentation	People need key messages and positioning before training

Week 9 2 days Date:	**Hold Coaching and IPS Workshop** 1. For Adoption Champions 2. Validate qualifications and monitoring method for supporting people in moving into coaching roles 3. Validate resource impact with management 4. With Adoption Champions as a TTT session for facilitators and extended team	OSI, Core Team, Adoption Champions	Adoption Champions Commitment Document	Leads learn the workflows and interactions styles to influence transition
Week 9 4 days Date:	**Prepare Training Delivery Materials** 1. Pilot initial training for prototype users and collect feedback before, during and after prototype is complete. 2. Possibly storyboard online training until online version is completed.	Nucleus Team, Prototype players, IT chosen vendor, OSI	Draft of useful materials	Used the TT session to validate materials
Week 9 2 days Date:	**Management Practices Workshop** 1. After the scorecard/dashboard has been introduced and validated, managers in the environment review the disciplines for using the system and the performance path they will monitor. 2. They review the overview of the work impact and timeframes to help guide the team.	Managers Core Team OSI	Management Commitment Document	Managers need executive reinforcement to shift focus
Week 12 5 days Date:	**Knowledge Champion Development** 1. Refines content and their relation to the knowledge collection in a cohesive manner. 2. Improves the ability to find and use content. 3. Performed through the continual application of the principles learned in the domain-tuning workshop to evolve the knowledge collection to maturity. Develops knowledge champions' skills necessary for managing a knowledge collection. This workshop includes all aspects of Domain Tuning as well as the nature of the Knowledge Champion's interaction with the different functions and levels of the organization.	Knowledge Champions OSI	KC Practices Document	Few knowledge champions are needed but they should develop considerable proficiency –this is largely self-selecting after the initial seeding period

Week 12 1 day Date:	Operational Assessment 1. Review key business drivers and provide guidelines for sustainability.	OSI	Alignment Survey Hands-on review	The time to do this could range between 2 weeks and 4 weeks after production.