**ELM: Experience Lifecycle Mapping**

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**Introduction**

Facilitating a deep understanding of how the experience of our customers is supported, nurtured, or ignored by our information systems and organizational design is a central goal of the new knowledge management system - ELM. Designed and implemented under a Center for eBusiness research project with the newly created MasterCard Advisors division of MasterCard International, the ELM framework supports a variety of complex conversations. The “customer experience” focused consultants of this new division are using ELM in their engagements with clients in the financial services sector. They are also using it as an in-house knowledge collection and organizing framework.

The focus of this first year of design and development has been to create an adaptive, collaboration framework that supports the development, execution, and evolution of reusable consulting methodologies. MasterCard consultants are using ELM to help their client financial firms to ask such questions as:

- What mental model of the customer experience lifecycle can anchor our IT investments and HR goals?
- How well do our core processes and the people who execute them measure up with our customer experience goals?
- Where are there gaps or weaknesses in our products and services from the customer’s experience view?
- Who in our organization will evolve their role to better align our current capabilities with customer experience goals?

The ELM knowledge framework allows the preparation of multi-phased views of the customer experience with open ended group facilitation questions, ad hoc and structured knowledge capture, and dynamic views and presentations. Just as modern spreadsheet templates use a grid/cell metaphor for the capture of multi-paged views of complex financial data, ELM templates use a rotational phase/step metaphor for the capture of multi-paged views of complex customer experience and organizational capabilities.

![ELM mapping screen shot](image)

*Figure 1. A partial screen shot of ELM mapping one of several uses of the capability; Customer Preference Profiling, within the context of the customer’s experience of co-designing a product solution. Prepared qualitative and quantitative attribute assessment dialogues about the capability are ready on the right to be launched by the group facilitator. During these dialogues, the lifecycle map remains visible in the background providing context.*
The ELM tool uses XML for its data storage. The ELM XML files are used to save and load prepared methodologies, to incorporate domain specific capability knowledge from experienced personnel and prior engagements, and to hold the data and observations of the mapping participants during a customer experience engagement. The XML format lowers the cost of future stand alone and web based tool integration as well as enabling editing as a structured document using XML enabled word processors.

The ELM framework supports an open ended mix of qualitative and quantitative inquiry about the phases and steps in the customer experience as well as the organizational capabilities that support them. ELM creates a group facilitation view of the customer experience map which presents discussion questions about each attribute. These discussion questions are brought up in turn with a click, framed in the context of the customer experience circle. The MasterCard consultants have been developing a body of their own proprietary attributes and questions within their methodology using ELM.

In the evolving ELM reference methodology, a capability is the capacity to perform a task. With its definition grounded in coordination science research¹, a capability involves three equally weighted elements:

- The processes in the capability²
- The technology infrastructure supporting the capability
- The people skilled to execute the processes with the infrastructure to deliver the capability

A given capability will typically support multiple steps within the customer experience. For example a customer may experience the Online Customer Support capability of a firm before, during, and long after a product purchase. Example qualitative questions about a capability in this methodology include:

- What are the critical dependencies for this capability?
- What exceptions have been observed in the performance of this particular capability?
- What specific skills are required for personnel to deliver this capability?

These qualitative answers help inform the quantitative attribute assessments of individual capabilities. Example quantitative attributes include the current capabilities assessment, their perceived importance, the relative goal for the capability identified in research and industry leaders, and the perceived importance of the gap between the current capabilities and the goals. The system can then provide multiple views of the weighted aggregations within the customer experience metaphor. These scores can then be queried using simple dialogues from the ELM menus, highlighting steps in the customer experience that may be under supported.

During the execution of a knowledge capture engagement, ELM presents a rich set of dynamically generated graphic views of the aggregated data to aid the group’s collective understanding of the customer’s experience. Any of these alternative views can be saved, commented, and organized into an evolving “slide show” of views within the ELM tool. Remaining data driven, and fully malleable, these saved dynamic views provide a group of professionals working on the complex questions over time, to build a suite of views of key questions,

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² In the processes of a capability I include the acquisition or design phase of the capability, its repeated execution, as well as its evolution. Note that skills required of actors of these different phased processes within a capability may vary greatly. E.g. the skills required to prepare meals in a typical restaurant are different than those required to design a menu and train staff on a new set of techniques for a new restaurant.

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opportunities, and identified problem areas. The evolving narrative support this creates is profoundly different than the traditional frozen Power Point presentation as it frees the presenter to respond to sidebar examination of any of the views and save the results as a new view.

Using ELM search capabilities and display options (see figure 2.) steps in the customer experience that are under supported may be highlighted or for emphasis, whitened out completely as gaps in understanding the customer. Identification of problem areas within the customer experience map may frame discussions about the need to change technology investment priorities, organizational structure and skills, and/or process design. The mapping of the customer experience step with the multiple supporting capabilities can be pulled into Matrix of Change\(^3\) as a current practice group to facilitate such change discussions and assess their feasibility. Further integration of the ELM reference methodology with the Matrix of Change presents a rich opportunity for further research.

Conclusions:

The ELM Framework supports the collaborative knowledge mapping of the customer’s experience lifecycle and how our information technology, our organizational personnel, and our processes combine in capabilities that support our customer’s full experience over the lifetime use of our products and/or services. ELM presents a rich set of dynamically generated graphic views of the aggregated data to aid the group’s collective understanding of these issues. Early indications suggest that the perspectives supported with this tool may significantly aid an organization in understanding and tasking itself to address the customer’s experience.

Much research waits to be done to fully utilize the framework, evolve assessment methodologies, and assess the double loop learning effects of using ELM over time within an organization. Also intriguing are the range of possibilities for further integration and synergy with knowledge and change support tools such as the Process Handbook and the Matrix of Change.

For more information on ELM research please contact John Quimby at Quimby@mit.edu or the MIT Center for eBusiness website at http://ebusiness.mit.edu.

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The Center for eBusiness has recently entered into Phase II, focusing more explicitly on business value, while at the same time including technologies beyond the Internet (e.g. RFID) in its purview. Our goal, in part, is to reduce that timeline through basic and applied research, engagement with industry sponsors, and the sharing of best practice, and the MIT’s credo of combining rigor with relevance is well served.

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