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Searching, Processing, Codifying and Practicing — Key Learning Activities in Exploratory Initiatives

Christoph Lechner and Steven W. Floyd

Why do so many exploratory initiatives fail? This article suggests the reason may be managers' tendency to under-invest in four key learning activities — searching, processing, codifying and practicing. Based on a study of forty-one exploratory initiatives in three insurance firms, this article explains why each of these four activities is important and why, despite their benefits, managers tend to neglect them. In addition, the study identifies three features of the context surrounding an initiative that facilitate appropriate investments in learning. For managers, the article offers a description of the factors that may either impede or support effective learning in exploratory groups, and provides a fine-grained analysis of the links between learning activities and specific learning outcomes.

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Introduction

When confronted by significant environmental change — whether from technological or competitive discontinuities — an organization's prior experience and current capabilities may not always provide it with a sufficient basis for response. In the 1990s, for example, there was little in the knowledge base of large insurance firms that prepared them for the competitive threats and business opportunities posed by the Internet. In response, many of these firms launched a host of exploratory strategic initiatives — undertakings that were charged with learning how to compete in the world of e-business, or as one firm called it, '*competing in a virtual world*'.

One study has estimated that on average only three percent of new product development projects become commercial successes.¹ While the initiatives in this study fared considerably better than that, still only sixteen of the forty-one (39%) were judged successful by management. One cause

of this high failure rate was the difficulty associated with learning new technologies, administrative systems and organizational routines.² The problems associated with such learning have been catalogued in prior research, including: (1) new ways of thinking or acting may be rejected because they contradict deeply embedded, taken-for-granted values and norms in the organization³; (2) the adoption of new routines may be blocked by established routines that cannot be ‘unlearned’ quickly enough; and (3) new knowledge gained by a relatively small number of people may fail to spread across the internal boundaries of departments and functional units. In general, exploratory initiatives in large organizations are confronted with significant rigidities that impede the accumulation of new knowledge. The more these initiatives require knowledge beyond the existing domain of the organization, the more challenging the learning process becomes, and the greater the likelihood that these undertakings will fail to deliver desired results.

exploratory initiatives in large organizations [meet] significant rigidities that impede the accumulation of new knowledge.

In the face of such hurdles, it is important to understand the role of specific learning activities in the success of strategic initiatives. Researchers have examined a number of activities associated with the development of strategic initiatives, including idea generation,⁴ influence behaviors,⁵ entrepreneurial roles⁶ and exchange relationships.⁷ Each of these has been shown to play an important role in how initiatives evolve and develop. Surprisingly, however, less attention has been devoted to *learning activities*, the things that people associated with an initiative *do* in order to acquire new knowledge.⁸

The purpose of this article is to describe these activities and show how they lead to successful learning in exploratory initiatives. We define initiatives as *coordinated undertakings (formal or informal) to develop or renew the capabilities associated with competitive advantage*. Our research shows that initiatives are more likely to deliver expected results when the people involved make appropriate investments in learning. We detail the benefits of these investments, and thus, explain why they are important in achieving successful outcomes. In most of the initiatives we studied, however, managers failed to recognize these benefits and under-invested in learning activity: this article also details why this happens.

We begin by developing a framework for thinking about learning in exploratory initiatives. We next illustrate lessons from our empirical research by applying the framework to two case studies in the automotive insurance business — one a success story, and one that was considered a failure. Following the cases, we broaden the empirical scope to describe the range of specific, and often over-looked, benefits that were realized by exploratory groups from investments in learning. The features of the context surrounding those initiatives that enabled appropriate learning investments are then discussed. We close by summarizing what our results mean for the management of exploratory initiatives.

A conceptual lens

Learning within exploratory initiatives not only involves acquiring, sharing and combining information,⁹ but also developing new skills and routines. Typically, the mission of these groups is to evaluate alternative technical or market approaches and decide which one is most effective.¹⁰ This involves asking questions, challenging assumptions, seeking different perspectives from within and outside the organization, and reflecting on what has worked and not worked in the past.¹¹ In addition to discussing alternatives and making choices, however, the task also involves actually *doing* things — experimenting with new arrangements, developing new

procedures and creating prototypes or pilot projects to demonstrate the feasibility of proposed solutions.

Figure 1 describes the conceptualization of learning activities that results from our research. The figure shows two types of activities, one involving socio-cognitive learning and the other experiential learning. Within the two boxes, the figure identifies four learning activities that are associated with learning outcomes. The two way arrow in the figure indicates (1) that decisions made within the group as the result of searching for and processing information influence the codification and practicing of new routines and (2) that the group gains the advantages of feedback by reflecting on the outcomes of codifying and practicing as a part of their decision making about what to do next. The following paragraphs offer additional detail about the activities.

Searching activity represents efforts to acquire new information from both within and outside the group.¹² Searching helps overcome managers' tendency to attend to relatively few, well-known sources of information, by leading groups to information from a larger number and variety of sources inside and outside the organization. This is important in exploratory initiatives where familiar information sources are less likely to be helpful. Searching not only increases the likelihood that novel ideas are generated, but also increases the awareness and involvement of other actors in the initiative, potentially strengthening the momentum for change and level of support for an exploratory initiative.

What we call *processing* represents the assimilation of information in groups where members analyze data, discuss issues, consider alternatives and reach decisions about particular courses of action.¹³ Zollo and Winter refer to these activities as 'articulation' because communication is an important feature.¹⁴ Structured discussion establishes common assumptions and shared understandings that provide a basis for further action. In addition, the analytical process leads to a systematic examination of assumptions and consequences, thereby helping groups to establish more accurate perceptions of the viability of various alternatives.

Codifying represents efforts to put concepts, procedures, products and the like into written form so that they can serve as guides to coordinated action in the development of new routines. Codifying further improves the understanding of relationships between actions and performance outcomes that results from the processing activity, because documentation forces the clarification of action-outcome relationships that may be described only vaguely in verbal exchanges. Writing often clarifies thinking, as when insights are documented in a written form, their inconsistencies, contradictions and assumptions become clearer. Codifying also facilitates the storing of routines as procedural memory, instilling an automatic or tacit quality to the knowledge accumulated within initiatives. Codified knowledge also diffuses more rapidly than other kinds of knowledge, and is thus likely to be necessary in order to gain cooperation or coordination from outside the group for pilot projects etc.

Practicing is the way that groups experiment with new behaviors, and is typically manifested itself in the development of prototypes, pilot projects and other kinds of experimental trials. As an

Figure 1. Learning activities and initiative performance

experiential component of learning, practicing further transforms the explicit knowledge acquired through processing and codifying into the tacit knowledge required in the development of new routines. With enough practicing, behavior becomes installed into the subconscious, helping to equip individuals and groups with semi-automatic repertoires. Practicing also enables feedback loops that help to clarify whether a proposed solution is actually working, how behaviors interrelate and whether and how they need to be modified to improve performance (Table 1 provides definitions and examples of each activity).

The study

We gathered data on forty-one exploratory initiatives (lasting between four and twenty-eight months) carried out by three major insurance corporations between 1999 and 2004. Two of the firms, Alpha and Beta, operate globally, while Gamma is active in several European countries. (Table 2 provides summary data on all initiatives.) By selecting data from a single industry, we were able to limit potentially confusing industry effects. While managers from different industries might have different or more intensive approaches to learning, we wanted to focus on differences in learning at the initiative or group level. Minimizing industry and firm differences is likely to increase the validity of our conclusions, although we acknowledge this design may limit the generalizability of our findings.

Another reason we chose the insurance industry for our study is that the industry is populated by large, generally conservative organizations. The risk-averse nature of the industry results partly from regulatory constraints, and partly from the nature of the business itself – risk management leads to cautious behavior. During the period of our study, however, most industry observers agreed that insurance was in a dynamic period, driven both by higher claim ratios, lower investment performance and all-encompassing technological shifts.¹⁵ This provided an ideal opportunity to observe the phenomenon of interest – large established organizations attempting to cope with dynamic external forces by launching exploratory initiatives.

All initiatives were described and cross-validated as exploratory by members of top management teams. With support from the CEO of each company, we surveyed initiative leaders, sponsors,

Table 1. Learning activities in strategic initiatives

Learning Activity	Definition	Examples
Searching	<ul style="list-style-type: none"> Acquiring new information from both within and outside the group 	<ul style="list-style-type: none"> Consulting with outside experts Benchmarking competitor websites
Processing	<ul style="list-style-type: none"> Assimilating information through analysis and discussion of issues, consideration of alternatives and reaching decisions about particular courses of action 	<ul style="list-style-type: none"> Face-to-face meetings to discuss outsourcing web site development Using web-based discussion groups to share information and opinion about product alternatives
Codifying	<ul style="list-style-type: none"> Putting concepts, procedures, products and the like into written form so that they can serve as guides to coordinated action in the development of new routines 	<ul style="list-style-type: none"> Writing a formal plan for product launch Documenting technical procedures for maintaining the currency of web-based product information
Practicing	<ul style="list-style-type: none"> Experimenting with new behavior, typically in the form of prototypes, pilot projects and other kinds of experimental trials; repeating new behavior until processes work 	<ul style="list-style-type: none"> Beta testing relationship software with a trusted agent Launching e-distribution in a low volume market

Table 2. Summary of forty-one exploratory initiatives

Firm	Examples	Duration (months)	People involved	Initiative Success
Alpha 17	Automotive Market	15	250	++
	Development East-European Business	22	400	+
	Electronic Markets	14	60	—
	E-Market Trusted Advisor	12	30	++
	European Investor Platform	5	40	—
	Fronting Solution	8	50	—
	Leverage	4	100	—
	Loyalty Program	7	700	--
	Pharma Business Interruptions	14	50	++
	Personal Financial Services	12	500	=
	Rating Precision	25	200	+
	Regional Center of Competence South	6	250	+
	Risk Market Platform	4	80	--
	Senior Citizen Web	14	40	—
	Small Business Network	16	120	+
	Virtual Online Insurer	14	90	+
	Workplace Marketing	7	130	—
Beta 11	Analytical CRM	18	120	—
	Assistance	14	1100	=
	Benefits4you	14	800	—
	Market Entry Hungary (Life)	8	40	=
	Business Professional	6	200	=
	Contact Center	9	300	—
	eFactory	14	1400	+
	Finance Point	12	1200	—
	Help Point	15	1200	++
	Medi Point	8	700	—
	Integrated Automotive Model	18	280	--
Gamma 13	50 Plus	28	700	=
	Assistance	8	300	—
	Bancassurance Distribution	22	250	+
	Broker Center	5	150	+
	Business Starter	4	80	=
	Digitalization Underwriting Processes	12	1400	+
	Dynamo	20	1800	++
	Fond Initiative Life	6	680	—
	Fond Unit Luxembourg	2	20	+
	Index-linked Product Line	16	400	—
	Reinsurance and Pooling	6	40	+
	Reliance	4	20	=
	Riester-Rente	15	250	—

++ very positive, + positive, — negative, -- very negative, = mixed results.

members and observers on the extent of learning activity within each initiative and triangulated their responses. Whenever possible, we used survey items that had been validated in prior research. In addition to the learning activities, we measured the success of each initiative according to a set of ten criteria that had been developed in a prior study.¹⁶ We also validated our judgments with self-assessments from corporate headquarters. In addition to the quantitative data, we conducted 28 interviews with senior, corporate-level managers (often sponsors), and with managers directly involved (as leaders and members) in the initiatives. The purpose of the interviews was to collect descriptions of an initiative's history of development. (Further details on the research design and empirical methods are provided in the [Appendix](#).)

Illustrating patterns in the data — two cases

We first illustrate the main patterns in the data as reflected in two of the cases we studied. We chose these two first because they capture extreme points on the continuum of success or failure. One has far exceeded expectations and has subsequently been transferred and replicated across other geographical regions within the same corporation. The other initiative was dropped after a period of eighteen months, and is now considered within the firm as a good example of 'how not to do it'. Second, although launched by competing organizations, these initiatives targeted the same strategic goal. Their objective was to develop a low cost e-business platform where potential retail customers could sell and buy used cars as well as receive information about and buy related car-insurance and other types of property and casualty insurance. Thus, while there were differences in activities between the groups, their mission had the same strategic content. This provided an excellent opportunity to spot differences in learning and how they affected initiative success.

The novelty of these initiatives — their exploratory nature — resulted from several sources. First, they required mastery of new technologies related to Internet software, e-commerce and web-design. Second, the processes required bundling familiar services (such as car insurance) with previously unfamiliar services (such as car trading) in an innovative package. And finally, the online platform was a new distribution channel — one that relied on a direct sales approach to gain access to clients, rather than via traditional intermediaries (agents). Thus, these were highly exploratory initiatives involving the development of capabilities that were new in technical, service and marketing dimensions.

Case 1: A success story

This first initiative was launched in 2000 when several managers of a unit that had historically struggled with low profitability in its car business developed an idea for an internet-based approach to marketing. The idea was to combine auto insurance with trading (buying/selling cars) on a single platform. The group believed this would both improve their cost-ratio and, more interestingly, generate additional premium income by attracting new client segments. Uncertain about how such a proposal might work out in detail, they spoke with several technology firms, visited conferences on retail management, invited scholars from universities of applied science for sharing ideas, read trade journals in marketing, web design and consumer behavior, and contacted car trading firms. Gaining confidence, they started to meet every two weeks to define and analyze technical and marketing specifications. They set up a work plan, allocated activities to sub-groups and informally channeled elements of their operating budget into the initiative.

they [needed] technological expertise beyond what could be acquired by simply 'calling in past favors' from colleagues in IT.

The initiative struggled at first as they recognized that it required technological expertise beyond what could be acquired by simply 'calling in past favors' from colleagues in IT. Their analysis showed that the cost of building a state-of-the-art platform would be quite large — and clearly

beyond what could be ‘informally siphoned off’ from their operating budget. At the same time, based on prior experience, they suspected that top management would not support the initiative. Energized by one particular group member, however, the group decided to do ‘all its homework properly’ and hoped that ‘if they got the facts right’, top management would be convinced to allocate necessary resources. So they increased their research efforts, re-assessed several dimensions of the initiative and pre-tested some of its most uncertain elements, including consulting potential clients about using an IT platform that integrated car trading with insurance sales.

To foster a broader mindset and avoid a ‘me too’ solution, they arranged for nine off-site meetings and set out to search for alternative technological features that departed radically from other IT architectures. They brought in a young technology consulting firm whose role was to present thought-provoking ideas about the Internet, to facilitate group discussions and to be a sounding board for proposals. Over several weeks of searching for and processing new information, the team generated some fourteen ‘unique’ features and molded them into a comprehensive business plan.

Transforming benefits of these unique features into ‘hard,’ quantifiable data was the next major challenge. The group needed clear cost specifications for the set-up and operation of web-supported call-centers, technical development and maintenance of the web-site. Codifying such information in the business plan forced the team to abandon, reshape or refine some of its less developed ideas. The final document included a host of supporting data about market potential, pricing, client segmentation as well as technical and financial requirements. Written documents rather than presentations were developed, because the group felt the senior management levels they need to convince would be mistrustful of the ‘superficiality of slide shows’.

the new web site was tested extensively by internal volunteers, [and its] technical information thoroughly documented, stored in a database, and examined by all relevant parties

Six months after the group’s first meeting, key members believed it was time to present the plan to top management. Although some executives expressed skepticism about what they described as a ‘fancy idea’, the majority was in favor, gave it their blessing and allocated the requested funding. Over the next several months, the group intensified their efforts. They tested technical systems, negotiated with units in IT, marketing and sales about how best to proceed and specified details of the market launch. Most of the technical information for the new website was thoroughly documented, stored in a database, and examined by all the relevant parties. The website was also tested extensively by internal volunteers before launch. Despite these thorough preparations, unexpected technical problems materialized shortly before the launch. This left the team with two options: either waiting until everything was perfect or proceeding with roughly 87% functionality and dealing with the remaining challenges later. After heated discussion, the group decided to launch the limited version — focusing exclusively on auto insurance and avoiding contracts for more complex types of casualty risks. Finally, the low cost, on-line venture was launched, gained acceptance in the market and successfully attracted a new, younger customer segment.

Case 2: A story of failure

In this second case, the impetus to pursue an e-business solution arose from a senior executive who was becoming increasingly nervous about the moves of competing firms in the automotive insurance market. One or two close rivals had hit the market with low priced, web-based insurance platforms, and this suggested to the executive that ‘*we are behind the curve*’. Based on discussions with several colleagues, the executive decided to launch an initiative to develop an integrated car insurance web-portal. He set up a team, assigned a formal leader and gave as a first task to the group an

analysis of the external environment, identification of the firm's competitive position and definition of alternatives for action.

In the following weeks, the initiative leader engaged the team to support him in doing these analyses and meeting the sponsor's expectations. During two group meetings, a heterogeneous picture emerged, however. Some of the members believed that online insurance distribution simply cannibalized the existing business of the firm. Others warned against the low profitability of the Internet model due to price competition. Some 'believers,' however, considered the dual approach an ideal way to sell insurance products. '*Nobody wants to buy an insurance, but most want to buy a good new car,*' one manager remarked.

divergent opinions left the team undecided as to whether to proceed, but the sponsoring executive pressed them forward

These divergent opinions left the team undecided as to whether to proceed, but the sponsoring executive pressed them forward. First, they asked the IT department for support in installing and running an appropriate web-portal. As the IT department already had a long list of projects on its agenda, it proposed to adapt some of its existing intra-net applications to the new internet initiative. The team agreed and decided to work in the meantime on client, product, and marketing issues.

Two opinions emerged as to how best to position the new offering. One part of the team argued for a defensive approach, offering existing clients the use of the portal in order to prevent them from taking advantage of offers from competitors. Others preferred a more aggressive approach, using the web-portal as a stand-alone enterprise, attracting both existing and new clients. These differences produced heated argument, in which the initiative leader tried to take the middle ground. Another issue was the variation in the level of engagement and availability among team members for the project: while some members were able to devote most of their time, others had '*too many regular responsibilities*' and participated only occasionally.

Five months after the initial request, the IT-department delivered a prototype internet-platform. Quickly, however, the group recognized that the functionality was well below what was needed. Part of the requirement had been neglected due to time and cost constraints. Working with the sponsor, the initiative leader identified several new members with strong technical skills to work on the most pressing problems.

Just as the technical problems seemed to get better, the member responsible for coordinating marketing and sales left the company. Because this individual had built personal relationships with external sales agents and coordinated their cooperation with the new selling process, the initiative leader found it difficult to replace him. Moreover, very little documentation had been prepared on how the arrangements with agents had been negotiated or how orders would be processed on the Internet platform and, lacking sufficient codification, the new marketing and sales person was forced to start from scratch. Two months later, the technical challenges were still unresolved, and the costs of the project had already exceeded budget. With no clear solutions in prospect, and roughly fifteen months after the project's start, the sponsoring executive decided to 'pull the plug'.

In the [successful] initiative outcomes from one learning activity flowed into another, creating an iterative process where all four learning activities were pursued intensely.

Comparison

As this short description reveals, these initiatives differed widely in how they were pursued and more particularly, in terms of learning activity. In the first initiative, members paid close attention to feedback, and outcomes from one learning activity flowed into another. This created an iterative learning process where all four activities were pursued intensely. In contrast, the second initiative was characterized by a low degree of investment across all four learning activities. Searching hardly took place; processing was not fact-driven; knowledge remained in the realm of individual members and was rarely codified; and due to time pressure and insufficient coordination, practicing efforts to reduce glitches and shortcomings were conducted poorly. In addition, the initiative followed a linear sequence with few feedback cycles and iterations, thus investing only superficially in the four learning activities. (See Table 3 for a detailed comparison).

The 'hidden' benefits of investments in learning activity

These two cases illustrate several of the key findings that we uncovered in our sample of 41 initiatives. Indeed, a quantitative analysis of the larger sample showed significant, positive correlations between all four learning activities and initiative performance — meaning that the more time and energy groups expended on these activities, the better their subsequent performance. As the successful case demonstrates, exploratory learning depends on investments in all four of the activities in our model, not just on one or two of them. However, organizations often underestimate the need for learning, as the second case reveals. Based upon our data, this behavior is not exceptional. Of the forty-one cases, only sixteen were assessed as meeting the expectations of sponsors, initiative leaders or the organization as a whole. Less successful groups tended to neglect some or even all of the learning activities in varying degrees.

Why does this happen? Our data shows there are several 'traps' or reasons why managers underinvest in learning. They include: local search behavior that is too close to existing knowledge; rushing to deliver results; failing to cope with intra-group tensions in processing new information; over-confidence in own skills; decision-making based on overly abstract ideas; lack of attention to

Table 3. Comparison of learning activities in two automotive insurance initiatives

	First Initiative	Second Initiative
Searching	<ul style="list-style-type: none">• Exchange with consultants, universities and car traders• Trade-Journals and conference visits	<ul style="list-style-type: none">• Local search behavior (within the corporation)• low intensity
Processing	<ul style="list-style-type: none">• Regular meetings• Broad dissemination of information• Fact-based decision-making• Proposal / Selling process for Top Management	<ul style="list-style-type: none">• Divergent perspectives based on subjective judgment• Limited availability of data and facts
Codifying	<ul style="list-style-type: none">• Explicit business plan• Database with documents on each working package• Formalized agreements with internal and external parties	<ul style="list-style-type: none">• Mainly personalized knowledge• Dependent on key people• Oral bilateral agreements• Limited use of communication and project tools
Practicing	<ul style="list-style-type: none">• Repeated testing of features• Regular meetings to assess status and refine details• Cycles and iterations	<ul style="list-style-type: none">• Insufficient time and resources to resolve technological hurdles• Very little testing

details; insufficient persistence in dealing with ‘stumbling blocks’; and neglecting feedback or input from external stakeholders.

The principal focus of our findings suggests that these impediments to success arise partly because the benefits of learning activities are *under-recognized* by managers in many large firms. That is, managers fail to connect particular learning activities (e.g. searching) to outcomes that are needed in the development of successful exploratory initiatives (e.g. alternative strategies, multiple solutions to a problem).

Our focus is therefore on the *benefits* of learning activities, and for these descriptions, we draw heavily on the success stories. Less successful cases are also important because they provide cross-case comparisons needed to support attributions about the benefits of particular activities. That is, when an activity or benefit is present in a successful case and *absent* in an unsuccessful case, there is a reason to be more confident about relevant attributions. Table 4 summarizes the under-recognized benefits of learning activities uncovered in our research, and the reasons behind managers’ failure to invest in learning. As it is developed from a limited sample of initiatives, the list should not be considered definitive or exhaustive. It is, however, likely to be typical for the kind of firms represented in our study — large established firms facing the need for substantial strategic change.

Searching

Our finding that the benefits of searching are often under-estimated may not be surprising in the light of prior research showing that managers tend to under-estimate the need for new information when faced with a novel task. What is perhaps more interesting is the effects of searching we observed in groups that somehow overcame this tendency. Aware of the gaps in their knowledge base,

Table 4. Under-recognized benefits of learning activities and reasons why managers under-invest in learning

Learning Activity	Under-recognized Benefits	Reasons why Managers under-invest in Learning
Searching	<ul style="list-style-type: none"> • Reduces self-confirmation bias • Prevents narrowing of perspective • Creates multiple alternatives • Facilitates comparison 	<ul style="list-style-type: none"> • Over-reliance on trusted information sources • “Natural” tendency for local search • Premature closing when confirming information was found
Processing	<ul style="list-style-type: none"> • Prevents uncritical acceptance of new ideas • Resolves group conflicts • Enhances group coherence • Helps maintain focus 	<ul style="list-style-type: none"> • Decision-making based on subjective opinion rather than fact • Interference by external parties • Lack of discipline
Codifying	<ul style="list-style-type: none"> • Prevents old habits • Facilitates coordination • Accelerates diffusing of knowledge • Clarifies relationship between action and outcome (decreases causal ambiguities) 	<ul style="list-style-type: none"> • Rush to deliver results • Missing guidelines and systems for codification • Overestimation of the amount of tacit knowledge
Practicing	<ul style="list-style-type: none"> • Demonstrates success • Improves coordination across functional units • Provides feedback • Facilitates refinement in new routines, products, etc. 	<ul style="list-style-type: none"> • Demand for resources • Insufficient persistence in dealing with stumbling blocks • New tasks attract attention • Lack of emphasis on nitty-gritty details • Overestimation of progress made

these groups deliberately looked beyond more easily available 'local' sources to draw on more remote sources of information, overcoming the tendency to pay over-much attention to information that confirmed past experience. In contrast, less successful groups ignored or filtered out information that diverged from their organization's conventional wisdom. Broader searching overcame the natural inclination to be 'narrow-minded' about new information, allowing realistic comparisons between existing arrangements and alternative possibilities. This, in turn, served to reveal the shortcomings of existing ways and increase confidence in alternative approaches.

For example, searching efforts within an initiative that promoted a 'Help Point' were not directed at other insurance firms, but at alternative business models in other industries, such as health care and airlines. As one manager remarked:

As we were looking back, we first looked at what others were doing with such models. We figured out that for most of the established insurers, this was a defensive move to cover their back. Then, we looked at service industries such as airlines. We soon recognized that new business models could have a tremendous effect by splitting the industry in two parts. Nobody had done this so far.

In contrast, we found that too many exploratory initiatives suffered from searching being neglected. Some teams tended to rely on what they already knew and applied solutions, tools and procedures to situations where they did not fit. In several cases searching was brought to an end prematurely because the group obtained confirmation for one or more pre-existing beliefs. Typically, this failing only became apparent after time had been wasted and scarce resources had already been consumed.

Processing

This activity, too, has several specific positive effects that were too often under-recognized by some groups in our sample. Systematic discussion and analysis of new information allows groups to 'separate the wheat from the chaff'. Frequently, ideas that seem to be promising at first glance do not survive more detailed scrutiny. The uncritical acceptance of new ideas, with the associated potential drain on scarce resources, can be avoided with by testing them in dialogue. In short, processing helps to improve the quality of decisions and actions during an initiative's development.

one team generated 90 ideas for new re-insurance business models.

After evaluation in three iterative rounds of group analysis, just 4 went on to more resource-intensive stages of development.

For example, one team in our sample generated about ninety ideas for new business models in the re-insurance market. They proceeded to evaluate these ideas in three iterative rounds of group analysis. In the first round, the general plausibility and value-adding potential of each idea were roughly approximated: 60 ideas survived this process. In the second round, a more refined set of criteria such as strategic importance, ownership and 'winning in the industry' were applied. This reduced the number of ideas under consideration to nine. Then, in the last round, the remaining ideas were exposed to precise, measurable criteria such as net present value, time for implementation and resource requirements, a process that reduced the number to just four. Using this systematic approach, the strengths and weaknesses of each idea were assessed step-wise, thereby increasing the chances that only the best ideas would go on to more resource-intensive stages of development.

Processing also helps groups to remain focused on the objectives of an initiative. The ambiguities inherent in exploratory undertakings frequently cause teams to get distracted during the process, losing track of their original purpose. Obsessed by a particular insight or new idea that attracts

their attention, they may devote a disproportionate amount of time and energy to something that is outside the scope of their initiative. As one manager said:

Although our underwriting initiative had progressed for quite some time, we had to recognize that we had not properly done the basics. Several assumptions we had blindly believed proved wrong. For example, we thought that the underwriting process was more or less the same across units within our firm. But the guys in the Netherlands work totally different from the ones in Germany or Spain. And if you look to Japan, things are even more different. We had to cycle back and forth over and over again, and we lost focus during this process.

Finally, processing is an effective mechanism to help develop cohesiveness and shared understanding within a group. Members of such teams are often working together for the first time, and their interplay and cooperation are not always well developed. Participants may have specific attitudes towards the undertaking, and processing allows team members to mutually adapt their perceptions and develop a common mind set, enhancing the effectiveness of the team. For example, one team in a cost-cutting initiative introduced the rule of ‘*what you fail to ground with data does not help us*’ in order to enhance the quality of arguments and to provide a basis for clarifying subjective arguments.

In contrast, where processing was neglected, initiatives suffered. Typically, these groups only recognized serious problems towards the end of the undertaking, even though in retrospect they could have been identified earlier. This led to the consumption of substantial resources on courses of action that later proved unworkable. Lack of processing also led to increased conflict about priorities and low cohesiveness within such groups. This impeded progress, and sometimes, precipitated intervention by persons outside the group who attempted to steer the initiative in a particular direction. Other teams who neglected processing became sidetracked by external events, missed milestones and lost the confidence of supporters or sponsors among top management. Thus one team became aware, only three weeks before market launch, that it was confronted with a legal problem prohibiting the transfer of client data among business units. Although a colleague had mentioned this problem several months before, it had not been deliberately analyzed or even discussed.

Finally, in some cases, the information processed by unsuccessful groups was too abstract. Too-general information lured some teams down blind alleys. For example, members of one initiative sought data about consumer trends in France. However, when the initiative was launched in the central region of France (Paris), it became apparent that the needs of targeted segments there differed significantly from other areas in the country. This detail had not surfaced in the learning process as data had been aggregated for the whole of France.

codifying prevents teams from falling back into old habits clarifies what works and [improves] diffusion of newly gained knowledge

Codifying

Codification — in the form of discussion papers, minutes from group meetings, documentation of new routines, detailed flow charts, blueprints or drawings — consumes considerable time and resources, and with speed a constant priority, many groups under-invest in this important learning activity. Our study suggests codifying has a number of unrecognized benefits. It prevents the team from falling back into old habits. At the beginning, newly gained knowledge — such as a new segmentation approach to marketing — is not fully institutionalized and legitimized within the group. Its status is rather weak and provisional in the minds of relevant actors, and it becomes quite easy to lapse into past practices. Documentation interrupts this automatic dependence on past experience, and newly gained insights become anchored better within the group. (Consider how many problems might have been avoided in our ‘failure’ case 2 above had the marketing and sales manager kept records of the new arrangements he was negotiating before he left.)

Codifying also helps to clarify causal relationships between group actions and performance outcomes. In so doing, it reduces ‘internal causal ambiguity’,¹⁷ and helps clarify what works and what does not. One team devised an 18-step procedure for processing insurance claims more quickly. By documenting the procedure, following it religiously and keeping track of the results, they were able to demonstrate reduced handling times of 12%, leading to significant cost reductions throughout the wider claims organization.

Codifying also enables the more rapid diffusion of newly gained knowledge, both within teams and within the organization as a whole. Especially when teams are large, internal knowledge transfer becomes a challenge. Typically in large groups, not everyone is working on the same tasks at the same time. They need some way to guarantee that their work will be coordinated so that they can build on each other’s efforts. This requires dissemination of information about the progress various people are making within the group. Using a written plan with frequent review sessions to update progress assures that members stay abreast of one another’s activities. A positive effect is that initiatives advance faster and with less friction.

Similar benefits result from codification when initiatives require cooperation from outside the core group, across departments or functional units. Here again, codifying serves to diffuse newly gained knowledge. For example, during a major business process reengineering initiative involving the merging of IT departments from several functional units into one large department (called ‘E-factory’), the responsible team distributed a weekly report detailing achievements, on-going projects, insights, emerging problems and next steps. These reports signaled the progress being made, kept everyone involved up-to-date and helped people to recognize when they needed to coordinate with other groups. Equally important, because the report kept a consistent focus on the logic and value of the initiative, it helped to counter any reluctance to cooperate from other departments. Finally, once an initiative has proved its value on a small scale, codifying allows the transfer and scaling up of new business ideas across other units in the wider organization. Thus the well documented e-business ‘success’ of case 1 above was first developed and tested in the Australian market and then rolled-out to countries in Asia.

Groups that fail to document decisions, detail new approaches or disseminate written information search for [what] has already surfaced, revisit already decided issues and build pilots on bad information.

Lack of codification in exploratory initiatives foregoes all of the above benefits. Groups that fail to document their decisions, detail new approaches or disseminate written information within the organization tend to search for information that has already surfaced, revisit issues that have already been decided and build pilot projects on the basis of bad information. When learning failed to materialize in our sample, teams often complained about insufficient attention to codification and expressed concern about missing guidelines.

Insufficient codification also makes it very difficult to coordinate activity within large groups, so that when the time comes for scaling up, a dearth of written documentation really slows the process down. Ironically, however, it is often the desire for speed — the rush to deliver results — that accounts for groups’ failure to codify their activities fully. At the most general level, lack of codification leads to a loss of organizational memory.

Practicing

Past research had already demonstrated the importance of pilot projects and prototypes to the performance of initiatives such as those we have studied. We were not surprised, therefore, that

practice surfaced as an important correlation to success in our quantitative data. What did surprise us, however, was how much more important practice became as initiatives became more exploratory. As we examined cases where groups were exploring completely uncharted territory, we found that practice was a key differentiator of success.

Yet some exploratory groups tended to under-invest in practicing, and, given that the purpose of these initiatives was to explore new capabilities, this neglect usually proved disastrous. Learning new organizational capabilities requires internalizing discrepant information, developing new routines, and sometimes changing organizational values.¹⁸ Without time spent on *experiential* forms of learning activity, members of a group are unlikely to internalize such knowledge, not least because this kind of knowledge is largely tacit, and therefore difficult to codify or articulate. How, for example, does a group in an insurance organization whose past success was based on agency relationships ‘learn’ that the future belongs to firms who deal with consumers directly? Even articulating such a divergent position can often lead to rejection by other members of the group.

Changing deeply rooted beliefs requires new *experience* — actually putting new concepts into practice and seeing the results first hand. Since widespread skepticism puts limits to the level of co-operation needed actually to implement a highly exploratory initiative, usually the only way to gain such experience is via a small-scale ‘demonstration’ project. When successful, such efforts do more than any amount of verbal persuasion to change beliefs. Moreover, without such practice, lack of know-how usually leads to false starts — such as the failed launch in case 2.

Besides demonstrating success, practicing provides several other benefits for exploratory initiatives. Practicing instills behavior into the subconscious, enabling the build-up of semi-automatic behavioral repertoires that are superior in terms of reliability and speed. With practice, new skills and coordinated responses become deeply internalized and can thus be easily recalled whenever needed. One manager involved in a successful asset management initiative remarked:

The functioning of our ‘360 degree advisory’ initiative depends on the smooth cooperation of all units along the life-cycle of a client. This does not work if we do not train it. Before and after we hit the market, we have to exercise this interplay over and over again, as otherwise we cannot guarantee a high service quality. Sometimes we hope to do even better, but by practicing we want to ensure that we will never fall below this level.

This comment confirms recent research that identifies the build-up and execution of routines as a major differentiating factor in the performance of firms.¹⁹ Practicing triggers the emergence of organizational routines that enable firms to perform faster and more effectively than their competitors. Importantly, it allows teams to obtain fast feedback on experimental routines, diagnose problems and work out implementation difficulties before they consume significant resources. For these reasons, practicing is often crucial to achieving market- or technically-related breakthroughs. Sticking with an approach and refining it through feedback is sometimes the decisive ingredient in superior solutions.

failed initiatives either gave up on a pilot project too early, or launched on a widespread basis with little or no practice

In contrast, a common characteristic of failed initiatives was the tendency either to give up on a pilot project too early, or to launch on a widespread basis with little or no practice at all. One reason for groups giving up too early was cost — indeed, practicing is often the most expensive form of learning. Another reason was that new projects or simply day-to-day responsibilities grabbed managers’ focus or higher management levels commanded such attention shifts. Often, however, the distraction came from the teams themselves, in jumping to new, more recent developments. But breakthroughs in performance require persistent and repetitive execution until

people finally get things right. When teams gave up on a potentially sound solution too early, when they felt their initiative ‘*wasn’t given a chance to succeed*,’ motivation tended to spiral downward, leading to reduced efforts and fewer alternatives. As one manager remarked:

Quite often I ask myself if we quit too early. Clearly, we were all very busy at the time. We had a lot of work to do besides the [new trading platform] initiative and when we ran into technical problems, many of us — frankly speaking — were ready to put an end to this stressful exercise. On the other hand, if you look around at the competition today, some of our competitors started at about the same time we did, but today they have successfully installed and are running such a trading platform.

Some teams were convinced that they already had all the relevant elements ‘under control,’ as one team put it — only to find that intellectual understanding of a new routine proved not to equate to behavioral mastery. Ironically, the fact that these managers already had a solid intellectual understanding of what had to be done somehow served to blind them to the need for practice.

Learning activities are not conducted in isolation... they run parallel to the activities, processes and routines of the on-going business

Significance of the appropriate context

Learning activities are not conducted in isolation. Rather, they run parallel to other activities, processes and routines that are related to the on-going business. Typically, many of the same people and resources are used to support both operations and exploratory initiatives. The organizational circumstances surrounding an initiative may therefore have an important influence on learning activity. The two cases can be used to illustrate this.

First, the source of the impetus for the two initiatives differed. While both aspired to improve productivity, the first was motivated by unit managers themselves, ambitious to create a truly novel car-portal. In contrast to this grass roots effort, the starting point in the second case was a decision by a top executive, who then handed the project down to managers to enact. In the first case, those involved joined the initiative based on their interest and commitment. This group was intrinsically motivated to learn, hungry for new information and ready for a sustained effort, in spite of the challenges posed by a supposedly unsupportive group of senior managers. In the second case, however, subordinates were coaxed into supporting their superiors’ idea and appeared to have little impetus to start the initiative and for ‘going the extra mile’ in learning. They had less appetite for new information and were not committed to a sustained effort when the going got tough.

Differences in motivation and aspiration level created very different contexts for investments in learning, one where the momentum was triggered from within, and one where it was driven by a senior manager in a more formal setting. This context difference influenced the amount of time and effort that the group was willing to spend on learning activities. Thus, *groups invest more in learning activities when the impetus to undertake an initiative comes from commonly shared aspirations within the group.*

The second point is that the importance of aspiration within the group does not mean that initiatives stemming from top-down impetus will always fail. Our findings suggest rather that groups invest in learning when they can set sub-goals autonomously and act on goals independent of support from the parent organization.²⁰ Such independence is necessary because it provides the time for groups to engage in early searching and processing activity. The resource allocation system in most large organizations is geared to support existing strategies, and will tend to weed out more exploratory initiatives as inconsistent with strategic priorities. Thus, without autonomy from the wider organization at the early stages, members are likely to be denied the time needed to generate new ideas and consider different ways of doing things. The grass roots nature of some successful initiatives was therefore significant because it insulated the group’s efforts from the organization’s

official power structure, allowing the initiatives to take hold in the organization and garner informal support. Thus, *groups invest more in learning activities when the initiative enjoys a high degree of structural and goal-setting autonomy.*

Third, as both cases demonstrate, learning is often difficult and time-consuming. Groups disagree, solutions seem to be non-existent, hints remain undetected, and sometimes this leads to initiatives getting ‘stuck’. In such situations, better-performing groups show a persistent tendency to ‘hang in there,’ re-examine assumptions, search for and process more information, whereas poor-performing groups reduced their efforts prematurely. Interestingly, periods of deadlock and stagnation were often followed by major breakthroughs — but only where teams showed sufficient persistence in the learning process.

better-performing groups show a persistent tendency to ‘hang in there,’ reexamine assumptions, search for and process more information.

In a web-based initiative directed at senior citizens, one team member successfully re-engaged her group in experimenting with the difficult issue of ‘hooking’ elderly people into broadening the scope of web-sites they visited. After a period of frustrating trial and error, the group finally found a successful approach by connecting their portal to those of help-groups that seniors already relied on. In many other initiatives, however, we saw executives decide on their own to go ahead with a particular approach that in the end proved ineffective and was abandoned. Such decisions tended to truncate group learning, and down the line, led to ill-informed pilot project development. In short, our research suggests, and the two cases illustrate, that learning requires time, coupled with a strong willingness to persist in spite of obstacles. *Efforts to shorten the learning process are often counter-productive. Put differently, exploratory learning is associated with time-compression diseconomies.*²¹

Discussion

Managerial implications

We think this perspective on learning has important implications for managerial practices on pursuing exploratory initiatives, both for managers directly working within such groups as well as for those setting the organizational context. With respect to the former, it is important to recognize that although large organizations typically have a significant knowledge base, this knowledge often works against them in the context of exploratory initiatives. As a consequence, managers working on such initiatives need to pay explicit attention to the learning activities associated with such undertakings and make deliberate investments in such activities in a way that is consistent with the demands of the situation. Unfortunately, our data suggests that managers tend to neglect learning in exploratory initiatives, perhaps failing to discriminate between the challenges of exploration and more incremental types of learning. Scarce resources, pressure for quick results and many other factors that impeded learning investments were uncovered in this study. To avoid succumbing to such inertial forces, however, managers must not only be alert to the need for learning, they must also be able to recognize the specific connections between learning activities and their benefits. The implications for managerial action in [Table 5](#) summarize many of our findings.

For executive sponsors of exploratory initiatives, it is vital to recognize that learning activities are shaped and influenced by key organizational context features. Exploratory initiatives require ‘breathing space’ to make progress, including both time and insulation from day-to-day organizational priorities. We identify this as the need for structural and goal autonomy. Especially in the early stages, exploratory initiatives are vulnerable to ‘overdoses’ of scrutiny from the corporate structure before

Table 5. Managerial implications for learning in initiatives

Learning Activity	Actions
Searching	<ul style="list-style-type: none"> • Deliberately utilize unfamiliar, external sources • Involve people with different perspectives and backgrounds • Prevent premature closing off of new information
Processing	<ul style="list-style-type: none"> • Critically check reliability of all data • Pursue and analyze multiple options • Insist on a fact-oriented approach to decision-making
Codifying	<ul style="list-style-type: none"> • Document meetings, major achievements and crucial details • Enable team members to access all written material • Deliberately note changes from established procedures
Practicing	<ul style="list-style-type: none"> • Focus on details and getting it right • Carefully observe deviations across cycles and analyze causes • Test all elements and seek feedback on performance

they have had time to demonstrate their potential. What is required is some form of ‘de-coupling’ these initiatives from the on-going business mechanisms. They need different goals and evaluation criteria from ‘normal’ projects, alternative procedures and supervisory approaches. One caution: although autonomy facilitates learning, the more decoupling, the more difficult it may later become to integrate initiatives back into the on-going operation. To avoid this, it is important to build links to the parent organization, especially at the practicing stage.²²

The time requirements of initiatives were also almost always underestimated in our sample, and we therefore question the wisdom of setting ‘aggressive’ time objectives. Such deadlines only force groups to hasten knowledge accumulation unrealistically and prematurely stop learning – sometimes with disastrous consequences at later points in time.

Further, executives should be careful about over-loading organizations with too many exploratory initiatives. All such projects require substantial involvement of managerial, technological and financial resources, and may need relatively long periods of time to prove their potential. If, in the meantime, too many new initiatives are launched, or if management attention continually shifts to new issues, then people begin to perceive the organization as being in a permanent state of flux, and unable to allow initiatives sufficient momentum to see them through to completion. We often had the sense that less could be more, and that managers were on ‘overload’ – however senior managers did not always share this impression.

Staffing practices play a crucial role, as the learning process in exploratory initiatives works best if it is fueled by teams of people with an intrinsic motivation to learn and aspiration levels which are high, without being unrealistic.²³ In the light of this, instead of assigning people to initiatives, managers may be well advised to understand where energy and commitment for certain issues exists in the organization, and encourage connections between these interests and ideas for relevant initiatives. Encouraging such connections is subtler and less direct than assigning people to teams, but without the commitment that goes with voluntary participation, managers are more likely to give up too early in the face of the challenges of exploratory learning.

Table 6 summarizes our findings as to the context structuring and support a successful learning activity needs. Some elements are noted here, while others appear throughout the paper: for this illustration we have re-grouped them into a roughly chronological track, under the four general headings *shaping*, *staffing*, *guiding* and *reviewing*.

Table 6. Managerial implications for setting the context

Issues	Actions
Shaping	<ul style="list-style-type: none"> • Emphasize the need for learning and illustrate consequences of learning failures • Build in “breathing space” (de-coupling) • Avoid “overloading” the organization (less is often more) • Consistently articulate the strategic agenda
Staffing	<ul style="list-style-type: none"> • Search for people with high aspiration levels and strong intrinsic motivation • Encourage self-selection of members and team leaders where possible • Form teams around people with common concerns • Use consultants only to support the initiative but do not put them in charge
Guiding	<ul style="list-style-type: none"> • Articulate the mission of the team around clear objectives • Allow teams to develop specific sub-goals on their own • Avoid imposing solutions developed from outside the team • Maintain contact with the team, even when it consumes significant time
Reviewing	<ul style="list-style-type: none"> • Use tailor-made evaluation criteria • Set timetables with appropriate buffers (avoiding overly aggressive timetables) • Recognize uncertainties in the timing of expected outcomes • Encourage persistence within the team • Explicitly manage the retention of successful initiatives • Identify and share “lessons learned” from failed initiatives

Theoretical implications

Several theoretical implications also arise from this study. Prior work has identified sources of inertia and core rigidities at the organizational level.²⁴ In this study, however, we have focused on how such forces play out within groups. This approach is motivated by the observation that strategic initiatives are a common vehicle for exploratory learning in large organizations, and that too little is known both about *how* such groups learn and about what may *prevent* them from learning. In this light, the list of reasons why managers under-invest in learning activities (presented in Table 4) may be seen as representing inertial forces operating within exploratory groups. Equally important, this research catalogues the benefits of learning activity in groups, and suggests the role of these activities in overcoming core rigidities. In particular, the topics as described in Table 4 represent mechanisms by which each of the four activities contributes to the process of learning.

Further, this fine-grained description of learning activities complements more abstract descriptions of what organizations do to renew their capabilities,²⁵ and extends the conceptualization of strategic renewal to include the activities of individuals and groups. In so doing, it broadens the dominant approach to theory development in this area to include not only forces in the intra-organizational selection environment,²⁶ but also the mechanisms of adaptation utilized within the unit of selection (i.e. exploratory initiatives). It also complements previous frameworks of learning and knowledge management at the organizational level of analysis.²⁷

Finally, our study contributes to the emerging debate on strategizing and organizing by examining the interdependencies among contextual conditions, behavioral practices and their strategic consequences. It emphasizes the importance of practical crafting skills in pursuing strategic initiatives and accomplishing strategic change. This is useful in balancing analytical, content-driven approaches to strategy. As the need to pursue exploratory initiatives increases, the mastery of process skills such as learning activities figures prominently in the achievement of strategic renewal.²⁸

Conclusion

This study offers a novel way to look at the problems associated with learning in established organizations. We urge managers who are involved in exploratory initiatives to take a deliberate, proactive approach toward managing the learning process. We hope this article contributes to reducing the failure rate of exploratory initiatives. Much can be gained by exploratory initiatives: but, where managers fail to invest in learning, much can also be lost.

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Appendix

Notes on the methods of this study

Our research process encompassed four stages and we have triangulated several research methods. In the first, inductive, stage we conducted twenty-eight interviews with managers involved in exploratory initiatives, either as team leader or member, in some kind of supervisory role or as heads of departments that were knowledgeable about these specific undertakings. In a second stage, we elaborated these findings into theoretical constructs and analyzed the relationships between them, as well as to several dependent variables, such as initiative performance. The available scientific literature was molded into this process, helping us to clarify and sharpen our arguments. In the third stage, we conducted a quantitative, empirical survey to test a broad range of hypotheses on forty-one explorative initiatives from three major insurance firms. We selected data on each initiative from at least three respondents and checked for inter-rater agreement. We also gathered objective data from finance or controlling departments in order to validate our survey measures, and hypotheses associating the learning activities with outcomes were tested using regression. In the fourth stage, we conducted three workshops where we informed the participating firms about the results of our research. Discussion and feedback from these workshops was also brought into this article.

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Biographies

Christoph Lechner is the Chair of Strategic Management and Director of the Institute of Management at the University of St. Gallen (Switzerland). He received his Ph.D. and Habilitation from the University of St. Gallen. His current research interests are in the area of strategy process and alliance and network strategy. Institute of Management, University of St. Gallen, Dufourstrasse 40a CH 9000, St. Gallen, Switzerland;

e-mail: christoph.lechner@unisg.ch

Steven Floyd is the Chair of Strategic Management and Director of the Institute of Management at the University of St. Gallen (Switzerland). He received his Ph.D. from University of Colorado. His research interests focus on the organizational processes and management practices associated with strategy making;

e-mail: steven.floyd@unisg.ch

The authors' recent joint work on strategic initiatives received the Best Conference Paper Prize at the Strategic Management Society and the Sumantra Ghoshal Theory and Practice Award at the Academy of Management.