



QUICKBORN
CONSULTING

YOUR RETAIL PARTNER

Keys to Successful Retail Application Maintenance

EXECUTIVE SUMMARY

Demands to meet changing business needs are greater than ever; retailers are continually required to adapt, innovate and react. A challenging economic environment, intense competition and a multitude of channels to interact with customers are forcing retailers to think and execute new business strategies for growth and profitability. Putting in place the right business processes and deploying the right technology solutions and software applications can help retailers to improve their bottom-line.

Application Maintenance is the last stage of the application life cycle. In the software lifecycle, a majority of the costs goes into Application Maintenance and Support activities; maintenance operations cost developers' time, effort, and money. This white paper aims at showing:

- How to keep the retail software application up to date with market environment changes and changing user requirements during the whole application life cycle
- How to ensure the appropriate governance of IT applications are aligned with the business strategy and objectives of the retail organization
- How to reduce retail organizations' IT budget spending on Application Maintenance of existing systems, and increase spending on new projects and innovative technologies instead
- How to select the best Application Maintenance Partner to support the mission critical IT programs of a retail organization
- How to guarantee that the quality and the applicative service level provided by the Application Maintenance Partner is in line with the retail organization's business requirements

With clearly defined application maintenance strategy and trusted application maintenance partner retailers can reduce the cost of their application maintenance, speed up the process of problem solving and improve internal user satisfaction. Externalized applications maintenance relieves the retailer's IT department of non-essential duties providing more time to focus on other more business critical IT developments serving the changing market and consumer behavior; in other words, providing more value with less investment.



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1. Introduction

Application Maintenance is the last stage of the software application life cycle. After the application has been released, the maintenance phase keeps the software applications up to date with environment changes and changing user requirements. Application maintenance in today's retail environment is getting significantly more challenging and time-consuming due to the complexity of applications. As software systems mature, it becomes increasingly difficult to keep them up and running without maintenance.

Application Maintenance consists of four types of maintenance operations:

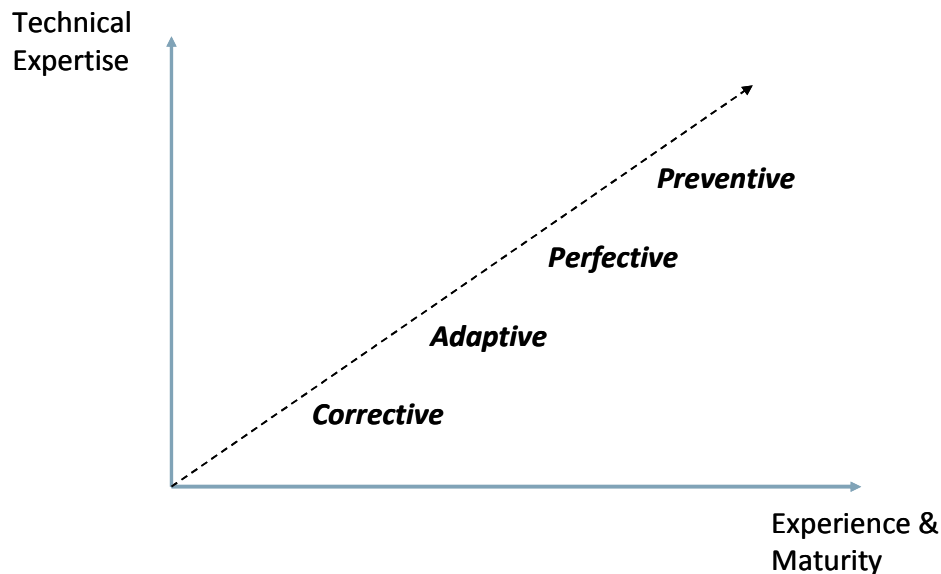
- **Corrective maintenance operations** deal with fixing bugs or defects found in the code resulting from design errors, logic errors and coding errors.
- **Adaptive maintenance operations** deal with adapting the software to new environments such as business rules and processes and software and hardware operating platforms
- **Perfective maintenance operations** deal with updating the software according to changes in user requirements; including functional enhancements to the application and activities to increase the application's performance or to enhance its user interface
- **Preventive maintenance operations** aim at increasing the software application maintainability, such as updating documentation, and improving the system structure

Corrective maintenance is the only type of application maintenance considered as the "traditional maintenance" of an application correcting defects in the existing software application. All the others types of application maintenance are considered as evolutionary, leading to enhancements of the software application. A common misperception of application maintenance is that it is merely fixing bugs. However, the majority of maintenance efforts nowadays are used for non-corrective actions enhancing the system functionality.

Some characteristics of software that affect application maintenance are system size, age, and structure. Understanding the characteristics of the software application will



facilitate maintaining the software more efficiently. It is also important to look at how single software application maintenance fits into the overall software application landscape.



Over the course of software life cycle, change will occur as a natural part of the process. These changes will be in response to changes within the business itself, external changes to the business such as market changes, new concepts and ideas and information that is discovered along the way. Being able to adapt to change more efficiently reduces the overall cost of change and of the operation.

2. Successful Governance of Application Maintenance Projects

When looking into Applications Maintenance in a strategic level, a retail organization needs to decide upon the key success factors for successful governance of application maintenance operations.

Some of the key success factors that should be considered are:

- **Clearly defined business requirements and performance monitoring**
- **Adapted processes**
- **Program management knowhow**
- **Organized and fine-tuned communication**
- **Evaluation of the Total Cost of Ownership of Applications**

2.1 Clearly defined business requirements and performance Monitoring

Estimating the impact of IT applications in retail organizations' performance is a complex operation. IT applications can be considered as strategic tools for retail organizations and their governance should therefore be aligned with the overall strategic vision and core competences of the organization. Equally, the evaluation of IT application performance should be integrated into the process of monitoring the global performance of the company.

The main stages of setting up structure for IT applications performance monitoring can be summarized as follows:

- **Building a strategic value matrix** at the top business decision making level allowing integration of IT in the overall corporate governance and strategy
- **Defining operational objectives and Key Performance Indicators (KPIs)** in line with the strategic objectives of the company
- **Defining measurable quantitative and qualitative variables** and associated processes and tools allowing measuring the fulfillment of the KPIs.
- **Following up the metrics according to pre-defined periodicity** and re-assessment of the used KPIs
- **Fixing new objectives of performance** within the framework of continuous improvement and taking corresponding actions

The whole process forms a continuous activity with the purpose to monitor and manage IT applications as a global added value creator for the retail organization.

Monitoring the performance of application maintenance operations should be included in the overall IT applications performance monitoring. Improving the performance on maintenance jobs will lead to higher productivity and to successful evolution of the software applications used by the retail organization.

2.2 Adapted Processes

Retail organization's Application Maintenance processes need to be adapted to the requirements of the fast-moving retail market. One of the most common problems in Application Maintenance operations is too complex procedures that slow down the decision-making and increase the time of effecting requested changes. In order to guarantee the application service level required by the business, the decision chain needs to be short, avoiding long procedures to solve an issue or to answer to a need.

2.3 Program management understanding

Program understanding is a crucial part of application maintenance since a huge time and effort is spent on effecting change. This means having the knowledge and experience necessary to run a maintenance program for large scale business teams and organizations.

The use of software and other similar tools for maintenance program management simplifies processes and increases efficiency and productivity. A software maintenance management tool supports a software maintainer in performing these tasks. Bringing in program management tools, and the consultative help that often goes with it, also helps with the large and complex task of detailed management reporting.

2.4 Organized and fine-tuned communications

In addition to having the right people and right processes in place a key to a successful application maintenance operation is organized and fine-tuned communications.

Technical problems that arise in application maintenance operations are often due to poor communication and control. If requirements and expectations between the business side decision-makers, the IT decision-makers and the external service providers are not clear and realistic enough, maintenance operations will be delayed or in worst case fail. When using a third party application maintenance provider the following steps should be taken in order to avoid these pitfalls:

- ***Defining application maintenance objectives and requirements in terms of communication aspects***
- ***Developing metrics and Key Performance Indicators (KPIs) for communication in order to verify that the communication goals have been met***
- ***Setting up a quality assurance program in order to make sure that the quality of the service and the service level is aligned with business requirements***
- ***Setting up a structure for regular feedback and performance reviews***

Knowledge sharing should not be ignored as a vital part of fine-tuned communications. Using knowledge repository of issues and ways of resolution for future references improves efficiency and transparency, facilitates processes and service provider performance evaluation and enables leveraging expertise more efficiently. Knowledge sharing can also be considered as one of the major motives when selecting a third party application partner; increasing the partnership quality and mutual trust.

2.5 Evaluation of the Total Cost of Ownership

Retail organizations need to ensure that the governance of their IT applications landscape is aligned with business strategy and objectives. In addition to estimating the business added value of the IT applications, retail organizations need to analyze the Total Cost of Ownership (TCO) of their existing portfolio of applications and estimate the long-term investments and costs related to the applications during their whole life cycle. This is crucial for avoiding mistakes like trying to achieve an unrealistic cost objective for maintenance or paying a higher service fee than justified by the business.

Throughout the life cycle of an application, there are annual costs of operation, support and maintenance, but also considerable additional costs for integration, migration of platforms, management of the continuity of the activities, and so forth. IT infrastructure and services should also be considered in the total ownership costs.

Moreover, investments in application feature enhancements create additional annual costs that do not remain constant throughout the application life cycle. A constant addition of new characteristics and features will entail an increase in the annual operating costs that in the worst case means that the initial implementation cost represents a lower percentage of the total cost of ownership when considering the whole life cycle of an application.

Application maintenance and support a major cost

In the software lifecycle, a major part of costs are related to application maintenance and support activities. Maintenance costs developers' time, effort, and money. Research suggests that large global enterprises now spend in average more than 70% of their IT budgets on application maintenance and support of existing systems. Clearly, application management presents high potential for cost savings.

One way to make savings in the maintenance of applications is complete or partial outsourcing to a third party application maintenance provider; as the application maintenance service best practices are shared across a number of retailers the greatest possible synergies and scale effects can be generated.

When working with a third party application maintenance partner, maintaining a realistic view of up-front costs is also important. Upfront costs often include investments in, for example, network security, risk management and knowledge transfer. But the return on these investments should not be forgotten either. The opportunity costs of staff time to conduct knowledge transfer and the investment in network security architecture are usually paid off with the year-over-year savings that a well established third party application maintenance and support provides. The benefits usually only increase with time as the relationship becomes more fine tuned and efficient.

3. Key Success Factors for Application Maintenance

When evaluating the added value of Applications Maintenance in a more operational level, measuring the success of application maintenance operations is vital. Measures enable to assess the effect of processes, methods, tools and techniques. The first step is to agree upon what the success factors for software maintenance are and how they can be measured.

When considering the success factors for applications maintenance operations, at least the following criteria should be taken into account:

- **Functionality:** As the business value is the main objective of application maintenance, a successful application maintenance operation should at least preserve if not enhance the functionality of the application under maintenance.
- **Quality:** The application maintenance operation should at least preserve the quality of the application under maintenance. The objective, however, should be increasing the quality of the application by reducing error rates, improving the consistency of documentation and increasing the application performance and productivity.
- **Complexity:** A successful application maintenance operation should not increase the complexity of the application relative to its size. Large systems have complexities at different levels: the component, the subsystem and the system level. Controlling the complexity at each level as well as their interactions is an important success factor. Making systems simpler also reduces overall costs.
- **Stability:** A successful application maintenance operation should not lead to an decrease in the stability of the application. The goal of a successful application maintenance operation is a steady evolution of the application. Enhancements are known to cause structural change and should therefore slowly decrease as the application reaches its maturity. If they increase it is a sign that the application no longer meets user requirements and needs to be revised.
- **User satisfaction:** The user satisfaction rate should remain at least at the same level, if not increase. Measuring user satisfaction is not simple and it requires significant investment in time and resources. User satisfaction should be measured against pre-defined criteria. These criteria should at least include satisfaction with the application functionality, quality and performance, and satisfaction with the application maintenance service and user support.
- **Release intervals:** Sustaining release intervals is a major objective for any application maintenance operation. Intervals between releases should not deviate from the agreed intervals and deadlines, otherwise this is considered as a sign of service degradation.
- **Costs:** In successful application maintenance operations the relative costs per maintenance task should not increase, provided the tasks are of a similar scope. The average cost of fulfilling a change request relative to the size of the impact domain is another important criterion. A separate maintenance productivity rate

needs to be set up based upon the size of the impacted domain and the complexity and quality of the application. The effort in man days versus the size of the impact gives the productivity rate that should be monitored on a regular basis to ensure that it does not decrease. A decreasing productivity rate usually goes hand in hand with decreasing quality and increasing complexity of the application maintenance operation.

- **Profitability:** The profitability of the maintenance operation should also be considered; a successful maintenance operation should be profitable or at least cover its costs.

4. Key Criteria for selecting a Third Party Application Maintenance Partner

Relieving the retailers' IT department of application maintenance tasks by outsourcing to a trusted partner not only relieves retail IT department of non-essential duties but also provides time to focus on other more business critical IT developments serving the changing market and consumer behavior.

Using an external application maintenance provider instead of dedicating valuable in-house resources to application maintenance operations can be highly advantageous in terms of service quality and cost-efficiency. A trusted third party application maintenance partner can provide focused and skilled resources with in-depth technical understanding and hands-on experience of the applications.

Outsourcing application maintenance to a third party service provider can also be more cost-effective due to scale effects and knowledge multiplication; as the application maintenance service best practices are shared across a number of retailers so the greatest possible synergies are generated.

However, selecting the best possible maintenance partner is not simple. Some criteria such as **company size, geographical presence, level of certification and employee educational background** are quite explicit, but criteria such as **methodology, skills and experience** are harder to measure during the selection process.

Level of experience plays a key role in the success of an application service partner. Therefore at least the following criteria should be taken into account:

- **Retail industry experience:** many Application Service providers work in several sectors of activities and industries and might lack sufficient vertical expertise in retail sector. A successful application service partner should be an expert in retail and understand the key business processes in retail industry.
- **Retail solution domain experience:** A successful application service partner should be an expert in the retail application category in question (Planning, merchandising, store systems, etc.)
- **Retail application package experience:** A successful application service partner should be an expert in the software package of the specific software vendor in question. In-depth business and technical knowhow of the retail application to be maintained reduces the overall risk, shortens the transition process and improves the productivity and cost-efficiency of the application service provided.
- **Retail customer experience:** Past and current customer references and successes are a key success factor when selecting a trusted application service partner
- **Technology experience:** A successful application service partner should have the necessary technology knowledge and hands-on expertise on the technologies to be applied (systems, platforms, web technologies, design/development/testing tools etc.)

Well-established Methodology and use of Best Practices is another key success factor when selecting an application maintenance service partner.

A successful application service partner should have a methodology focusing on defining and improving processes and aiming at continuous improvement in application support and maintenance services to lower the total cost of ownership to the retail organization. A well-defined methodology enables more efficient knowledge transfer, more cost effective services, and smoother and more transparent day-to-day operations. A well-defined methodology also gives a better guarantee that the service provided by the third party application maintenance provider is in line with the retail organization's business requirements.

Selecting the right partner is crucial in order to guarantee that the quality and the service level are in line with the retailer organization's business requirements.

5. Conclusion

Application maintenance in today's retail environment is getting significantly more challenging and time-consuming due to the complexity of applications and the rapid change cycles in the fast-moving retail market. Using an external application maintenance provider instead of dedicating valuable in-house resources to application maintenance operations can be highly advantageous in terms of service quality and cost-efficiency. A trusted third party application maintenance partner can provide focused and skilled resources with in-depth technical understanding and hands-on experience of the applications.

Relieving the retailer organization's IT department of application maintenance tasks by outsourcing to a trusted partner provides the retailer's IT department time to focus on other more business critical IT developments serving the changing retail market and consumer behavior.

Selecting the best application maintenance partner requires careful analysis of partner background information and competencies in order to ensure that the service provided is in line with the retail organization's requirements. After selecting the application maintenance partner the retail organization needs to set up precise service level agreements, clearly defined processes and measures of performance, detailed reporting and communication structure in order to guarantee maximum transparency and level of service.

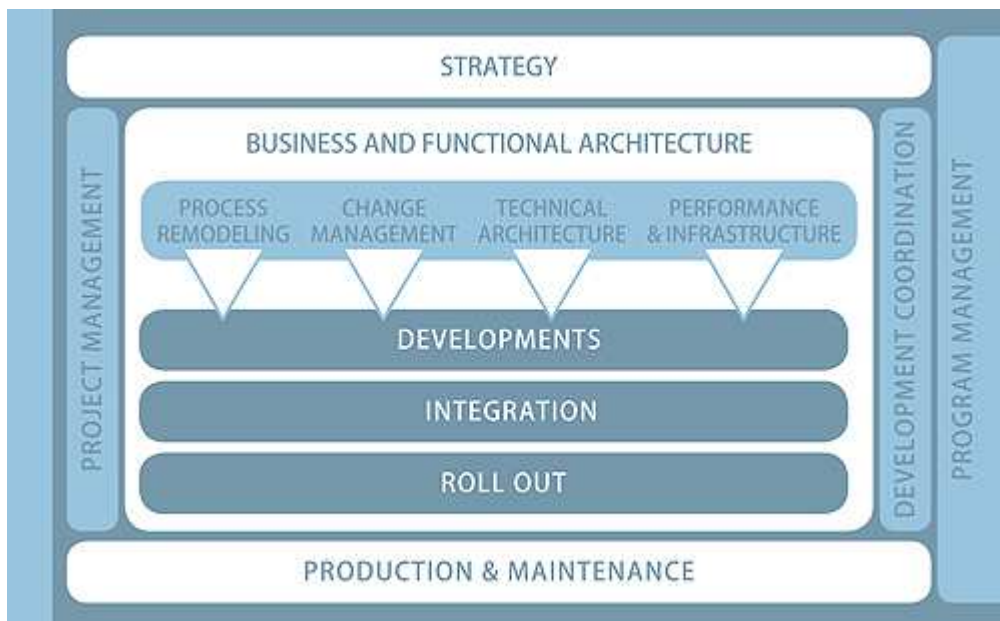
6. Quickborn Consulting – Your Retail Partner

Quickborn Consulting provides business consulting, IT systems integration, solutions development and support services for the retail industry. Quickborn supports retailers on their business and IT transformation programs to improve their performance and increase their competitiveness.

Quickborn has developed a unique Retail expertise by supporting global organizations in all retail sectors (fashion, department store, Do-It-Yourself, food, etc.) in a wide geographical area: Europe, USA, Africa, and Middle-East.

Our Expertise:

- **BUSINESS CONSULTING** - Quickborn consultants help you in transforming your business and lead change management programs addressing people, processes and technologies.
- **SYSTEM INTEGRATION** - Quickborn designs and delivers solutions helping you to ensure your strategic initiatives are aligned with your operational goals and your productivity is optimized.
- **APPLICATION DEVELOPMENT AND MAINTENANCE** - Quickborn develops, supports and manages your retail software applications, so you can focus on your core-business. Our application maintenance and support methodology has been tested over years. Our approach allows us to take over responsibility of your application maintenance operations rapidly, cost-efficiently and risk-free.

**Our commitments:**

- **High-quality:** Great care and attention is given to all deliverables that Quickborn professionals present to clients and customers, all having to pass a rigorous quality assurance process built into the delivery engine Quickborn uses day-to-day.

- Flexibility: Utilizing multi-national reach and diverse resource centers, Quickborn is able to provide both high quality and expert in-depth knowledge at short notice and in a wide range of content.
- Expert service and support: Our professionals are well trained with in-depth knowledge of their respective areas of expertise and are deeply motivated to provide services to their utmost ability and knowledge.

Quickborn Consulting is a specialized expert in Oracle Retail Suite applications. In addition to strong Oracle Retail ERP expertise, Quickborn also has a world class planning and optimization solutions consulting and service practice for Oracle Planning and Optimization Solutions including Merchandise Financial Planning, Assortment Planning, Category Management, Markdown Optimization, Regular Price Optimization, and Replenishment Optimization to name a few.

For more information please visit our website at www.quickbornconsulting.com

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