



SECTION 2 - LITERATURE REVIEW AND BEST PRACTICES

2.1. Literature Review

Literature analysis suggests that electronic payments are considered one of the main building blocks of any e-government concept (Miranda, 2000; Relyea, 2001, LaVigne, 2002; Dawes, 2002). Electronic payments, or electronic exchanges of money for government goods and services, are a universal government operation embedded in almost any government transaction supported by e-government (Relyea, 2001; Cook, LaVigne, Pagano, Dawes, Pard, 2002).

2.2. Software Products

Software developers present two options for government entities that provide e-payment systems for their constituencies: universal e-payment software and included e-payment module.

2.2.1 Universal E-payment Software

A number of companies develop and offer independent e-payment software solutions that can be used for almost any type of government transaction. These transactions can include utility bills, permit fees, and impact fees. The advantage of a universal e-payment system includes a unified database of all monetary transactions and standardized interfaces, operations, and software requirements. Examples of such solutions are:

- Capital Utilities Billing Software by Capital Software, Inc.
- Flex Foundation Payment Manager by EzGov.
- GovOne solution by GovConnect.
- Fee Payments by NIC, Inc, and EgovRelation.
- EgovProfessional by SSI.



2.2.2. E-payment Modules

Another option that e-payment software products offer is the creation of service-oriented solutions that consist of an e-payment module. Such solutions can be frequently found for building permit software (Simple Builder Permit by CBOSS, *DynamicPORTAL* by Hansen, Inc, PermitPartner by GovPartner), license issuance software (License Management by Accela, Inc, Business License management by Akanda) and planning, zoning, and plan reviewing software (Land Information System by Accela, Inc; AMANDA Citizen and Land Use System by Motorola and Govworx municipal software by Govworx). E-payment modules in such a solution are highly customized and are incorporated in the process of one-stop application. In some cases, when complex services cannot be fully delivered online, fee calculation modules are used instead to provide customers with estimates of necessary payments. Such devices can be frequently found in so-called wizards – software solutions that assist with filling complex applications and assembling application packages (e.g. PermitWacker by M2SI and Permit Wizard by Risettime).

2.3 Best Practices and Characteristics of Successful Projects

- 🌐 City of Scottsdale, AZ (best e-utility by Public Sphere Information Group, 2003)
- 🌐 Corpus Christi City, TX (best e-utility by Public Sphere Information Group, 2003)
- 🌐 Dallas County, TX (best e-payment online by TexasOnline, 2001)
- 🌐 Macomb County, MI (Achievement award by NACO, 2004)
- 🌐 City of Minneapolis, MN (best e-utility by Public Sphere Information Group, 2003)
- 🌐 Henrico County, VA (Achievement award by NACO, 1995)

A study of existing software products and examples of the best practices in the e-payment area suggests the following requirements for the e-payment solution used by local government entities:

- 🌐 Data sharing among databases for all monetary operations within a government entity (one account for external customers with different services payments, one tracking system for



government employers). This is especially important for incorporated billing units within service-oriented software.

- Integration of e-payment software in the application for each government service is provided online.
- Flexible interface design, especially for the universal billing software (payment/billing forms and windows created/modified by the government entity itself).
- Flexible account options (creation of single and multiple accounts for internal customers, creation of master and submeter accounts by government employers).
- Flexible payment options (group billing, group payments, all range of payments methods, and account budgeting).
- Multiple search engines for payment tracking (by service, account, customer, department, time period, etc) and unlimited account history for tracking.
- Account automation (automatic meter reading, automatic fee calculation, automatic customer notice issuance, automatic account reporting etc).
- Security (research indicates that external customers express serious worries about security of monetary transactions with government. The Momentum Research Group found that 17% of respondents worried about security of government online payments in 2000. Accentura Inc. reveals that 33% of respondents express doubt about security of monetary transactions with e-government in 2003).

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