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# Case 13 -2: Agrico, Inc.- A Software Dilemma

# Agrico – Company Background

The company was started by two farmers in Moines, Iowa, in 1949. Agrico provided farm and ranch management services for 691,000 acres piece of land. It has a market value of its portfolio at $500 million by 1987. It was ranked as one of the best and sizeable agricultural management firms. They have four regional offices with five farm managers each. Agrico provided cost-effective farm management services for a large number of farms and ranches. Sometimes the company acted as an agent to buy land and equity interests in farms and ranches for clients and managed them for operating cash flow.

Agrico had three arrangements for their properties. The first one being the crop-share lease arrangement, which represents 47% of their portfolio. In this arrangement, farmers agree to farm in land managed by Agrico, but at the end of each year's crops, a portion is given to the company. Later, Agrico would sell the crops in the commodity market. The second arrangement is cash-rent leases, which comprises of 51% of the company's portfolio. In this arrangement, farmers made a cash payment to use the land. The last arrangement in the portfolio was that Agrico directly managed a few properties; this comprises 2% of their portfolio.

# Agrico’s New Computer System

During the business planning process held in 1985, the company's executive reviewed its existing system. They were using local computer services, which had yearly fees. The services were not adequate for their present or future needs. In the same meeting, they also identified the need for office automation to improve productivity and efficiency (Tayntor, 2016). Their current contract was also expiring on September 30, 1987. The summers were traditionally slow in buying, selling, and leasing of the company's land, and therefore, June 1, 1987, was set as the conversion date.

Agrico never had any internal computer systems staff as they contracted a large computer consulting firms for recommendations on their computing needs. The consulting firms assigned its employees to Agrico's projects. From systems planning, Burdelle indicated that Agrico needed in-house data processing. They are also little expertise in doing so. The company wanted to minimize cost and installation lead time and opted to use a software package rather than developing their own.

Agrico provided complex functional requirements since the software was expected to be used for all three property arrangements ("undefined," 2011). The cash-rent offered minimal problems because their accounting was reasonably straight forward. The directly managed property required a different focus. As for the other part, it was heavily involved in the farms' commodity market. Agrico needed all these requirements to be met by a single vendor. From a list of 40 vendors, Agrico identified only two. Each was requested to submit their bid. Agrico selected AMR to deliver the software.

Agrico chose AMR based on their track record. AMR had already served 12 clients and was up and running, and excellent references. Agrico also visited some of the clients and saw demonstrations of how the software worked. The other company was midsized and had only sold their software to three firms which were not yet in production. Several modifications were to be made to the existing software (Damiani et al., 2018). Throughout the entire development, process Agrico was impressed by Burdelle knowledge of complex systems. He was offered a role as the vice president of information systems, which he accepted on July 1, 1987.

# Stakeholders

Agrico, as a farm management service, has employees employed in their various farms. The regional offices have each four farm managers. The It team assembled by Burdelle and the farmers who leased the land are all stakeholders.

# The AMR Relationship

AMR was a small software company with headquarters in Omaha, Nebraska. A. M. Rodgers founded it in 1977. They only sold one type of computer system, a system managing farm, and ranch portfolio. Amr serves 12 clients across nine states. AMR has ten employees, including Rodgers himself. Each customer did provide a positive experience. Rodgers was the core of everything, from marketing to software design and programming.

Agrico and AMR signed an agreement that states AMR would provide software fulfilling Agrico's needs ("Software consulting agreement (Favors customer)," 2008). AMR was to modify its software package. The purchase price was approximately $200,000. Agrico would also pay a one percent fee of the amount as a maintenance fee. AMR was to deliver the object code no later than October 1, 1986. The agreement also stated that Agrico was limited to code viewing only necessary to test the system. Only AMR was allowed to make code modification. Software maintenance was also done in escrow with a third party to ensure proper backups.

# The software experiences.

AMR delivered the object code as stipulated in the agreement by October. It was installed on Agrico's new computer which had been given earlier. During the same time, Burdelle had completed hiring his system's staff, which included a system and programming manager, two programmers, and two operators. Software acceptance testing followed after installation, where both Agrico's staff and the consultants were involved.

During the testing, it was discovered that all was not right. Agrico found that there were 12 versions of the software package. Each client used a different version with unique functionalities. AMR programmers deleted pieces of codes that were not used by clients. Agrico wanted to use all the system's functionalities, but apparently, none of the other clients had them all together. While the individual modes worked correctly, they never worked perfectly together, and some functions had never been thoroughly tested (Gutbrod & Wiele, 2012).

AMR first installed their system and corrected the bugs that were discovered by clients. Agrico had to adjust its schedule to give more time for the testing as Burdelle wanted a perfect system for the company, which would not offer clients a hard time. A payment plan of 20 % upon contract signing, 60 % after completion of acceptance testing while the remaining was to be paid 90 days after system conversion. It made AMR attentive to the clients.

AMR had successfully removed all the bugs identified by March, and Jane Seymour from Amr begun working on Agrico computer, where she left the source code.

# The dilemma

During the acceptance testing, Burdelle was thorough as he was not going to jeopardize their clients' assets with bug-filled software (Dienhart, 2000). He also saw the importance of an escrow service as there was no standard version of the software. The testing also exacted its toll on Burdelle and Rodgers' relationship, where an aggressive tone had again crept between the two. During this period, the two also began to discuss the specific arrangements for escrowing the object and source code. Agrico realized their installation was unique and required a backup of both source and object code. The source code was useful in case of modification. Rodgers claimed Agrico should be satisfied with his backup plans.

Agrico was requesting the software source code from Rodgers in case they needed to add some functionality to the software themselves or updates. Rodgers stated that they could not access the source code or change it as per the agreement they signed. Burdelle has been having a lengthy conversation to convince Rodgers to give them the source code. Rodgers never wanted to give up control of the software and remained reluctant. Jane Seymour later let the source code on Agrico computer, where Louise Alvaredo was tempted to copy it and send it to the off-site storage facility. Burdelle chose to remain by the contract but never understood why Rodgers never trusted him with the source code.

# Conclusion

## Solution

Ethics and morals are the best practices in the software development world (Gutbrod & Wiele, 2012). People should abide by the rules of the contract. If an agreement is broken, then the development is null and void. Agrico should have faith in the development of AMR software. AMR has had 12 firms up and running, plus the clients' positive comments are enough to convince them to bet on the efficient delivery of the software. The thorough acceptance testing was required even though it strained their relationship between Rodgers and Burdelle. It was able to create bug-free software.

## Other solution considered

The other available option for Agrico was to develop the software themselves. The team that had been assembled by Burdelle was capable enough to build a new system that would incorporate all the firm's requirements. Even though the development would take time and more capital, Agrico could have complete control of the system. It would enable them to edit their source code without breaking an existing contract (Gutbrod & Wiele, 2012). The development will also make the programmers familiar with the system and perform updated fast when required.

The solution that I chose is ethical. Ethics are essential in business transactions. It increases trust between the parties involved. Agrico should abide by their contract and let AMR do their job. In case of any update, they should contact them again to perform the upgrade.

**References**

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