

ProcessGPS

Guaranteed Project Success

Project Alignment, Selection and Prioritization Using Quality Function Deployment (QFD) By Gabriel Kemeny and Michael Reames

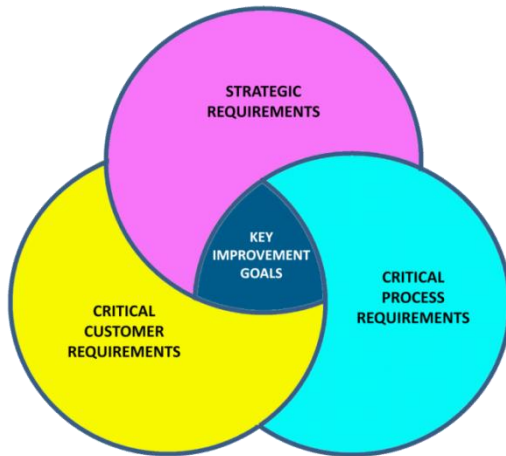


Figure 1 – Strategic Alignment

By now, you have probably reviewed your organization's strategic goals for 2011. Perhaps you are thinking about ways to engage your people to achieve these goals. How can you organize your efforts to best fulfill your strategic expectations and address the many challenges during this upcoming year?

Your customers are interested in the value of the outputs delivered to them by your organization's business processes. They do not concern themselves with your company's functions or departments that make up your business.

Organizations with an improvement mindset learn to view themselves in terms of the processes that deliver products and services to customers. Do you have a clear understanding of your customers' most important concerns for 2011?

Have you clearly identified the core processes that make up your business? A core business process is a set of interrelated, usually cross-functional sub-processes that have a profound impact on customer satisfaction. Have you identified your most important core process deficiencies and determined your process improvement opportunities for the coming year?

In this article, we show you how our ProcessGPS experienced consultants can help your organization to create and maintain a pipeline of prioritized projects and initiatives aligned with your corporate strategies, and which, at the same time, impact your critical customer and process requirements (Figure 1).

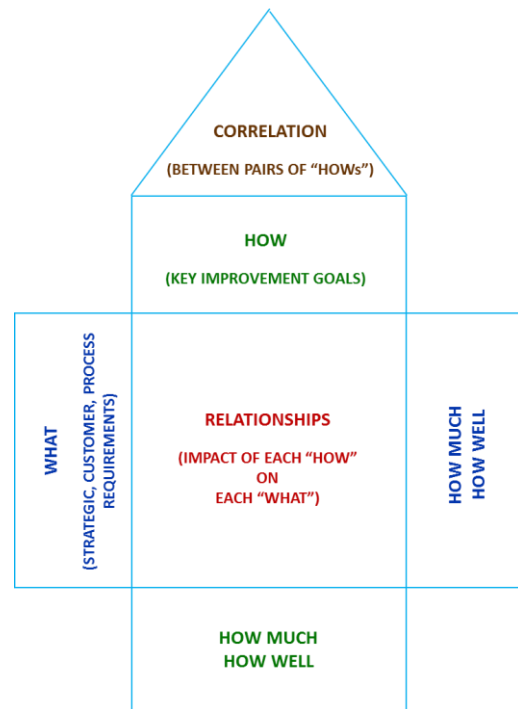


Figure 2

For this purpose, we like to use a powerful tool known as “QFD (Quality Function Deployment),” also recognized by two other names, “The Voice of the Customer,” or “The House of Quality.” QFD is an effective way to organize information in the form of matrices. It is valuable both as a management and communication tool. Figure 2 shows the components of a typical QFD matrix.

Let us review the contents of each “room” we will build in the “House of Quality.” Please refer also to Figure 3, showing an actual example of a QFD matrix that deploys high-level strategies into key improvement goals:

"WHATs"

Identify the organization’s “vital few” strategies for 2011. Also, establish the critical customer needs and wants for the same period. Finally, determine the most critical needs of the core processes by which you do business. You may operationally define terms to assure consensus among team members in understanding each of these requirements.

“HOW MUCH, HOW WELL”

Determine the relative degree of importance of each strategic, customer and process requirement. Establish metrics for each of the requirements. Determine how the organization performs (baseline) on each requirement. Determine where you want to be in the future on each requirement (target goals).

"HOWs"

Deploy "WHATs" into company key improvement goals (KIGs) to satisfy each strategic, customer and process requirement. Key improvement goals (KIGs) are tactical goals that support the higher-level strategies of the organization, the key customer and the key process requirements. Determine where you are now on each KIG (baseline). Determine where you want to be in the future on each KIG (target goals).

RELATIONSHIPS

Evaluate the relationship between each "WHAT" and each "HOW". For example, at the intersection between a strategic requirement (WHAT) and a Key Improvement Goal (HOW), a weight of 9 typically denotes a strong relationship; 3 indicates a medium relationship; 1 signifies a weak relationship; and 0 (zero) represents a lack of any relationship. This process requires time and concentration, but it gives the opportunity for your team to understand the effect of each KIG on all requirements. In order to establish these relationships correctly, ask the following question for each deployed KIG: "To what degree does this particular KIG (taking into account the target goal) impact that particular 'WHAT'?"

PRIORITIZING

Calculate the importance value of each KIG ("HOW"). The idea is not to "play with the numbers", but to separate the "vital few" from the "trivial many". This drives the organization

to concentrate efforts and resources on matters that really affect the high-level requirements ("WHATs").

Example of calculation of the importance rate of "HOW" # 1, Matrix # 1, "IMPROVE PRODUCT QUALITY" (shaded in yellow):

3 (Medium Relationship) X 9 (Degree of Importance of "WHAT" # 1) = 27 (Improve Employee Sat)

3 (Medium Relationship) X 7 (Degree of Importance of "WHAT" # 2) = 21 (Increase Profit)

3 (Medium Relationship) X 7 (Degree of Importance of "WHAT" # 3) = 21 (Grow Market Share)

9 (Strong Relationship) X 10 (Degree of Importance of "WHAT" # 4) = 90 (Improve Customer Sat)

9 (Strong Relationship) X 9 (Degree of Importance of "WHAT" # 5) = 81 (Reduce Defect Rate)

3 (Medium Relationship) X 7 (Degree of Importance of "WHAT" # 8) = 21 (Reduce Order Fulfillment Cycle Time)

TOTAL = 261 (First column of Matrix # 1, Figure 3)

CHECKS

Check for any empty row (this indicates that a particular requirement has not been addressed by a KIG).

Check for any empty column (indicates that a particular KIG does not affect any requirement, and may therefore be unnecessary).

CORRELATIONS - THE "ROOF" OF THE HOUSE

Look for pairs of "HOWs" that are negatively correlated with one another. Where there is negative correlation, compromise needs to be established between one KIG and the other. For example, in Matrix #1, the "KIGs" "Expand Product and Customer Base" and "Reduce Warranty Costs" (highlighted in red) correlate negatively with each other. This indicates that the target goal for warranty cost reduction needs to take into account that the product and customer base will increase. Therefore, a compromise must be exercised in determining warranty cost reduction.

In Figure 3 (QFD Matrix # 1), the high-level strategic requirements are deployed into "Key Improvement Goals," which are prioritized by the degree of impact they on these strategies. However, the KIGs are not yet expressed at the level of projects/initiatives. Therefore, we create a second QFD matrix that deploys the KIGs into defined projects in a more granular way.

To achieve this purpose, we transfer the "HOWs" of Matrix # 1 to become the "WHATs" of Matrix # 2 (Figure 4) and repeat the same process by defining new, more granular "HOWs" that can be assigned as "Projects."

Note that the matrix format allows you to create rows as necessary to define, for each “HOW,” the type of project, the project sponsor, the project leader, the process owner, the target deadline, and any other important information you consider important.

Note also that these matrices are living documents that can be completed and updated as more information becomes available.

Figure 3 – QFD Matrix # 1

Strategic, Customer and Process Requirements VS Key Improvement Goals (KIGs)

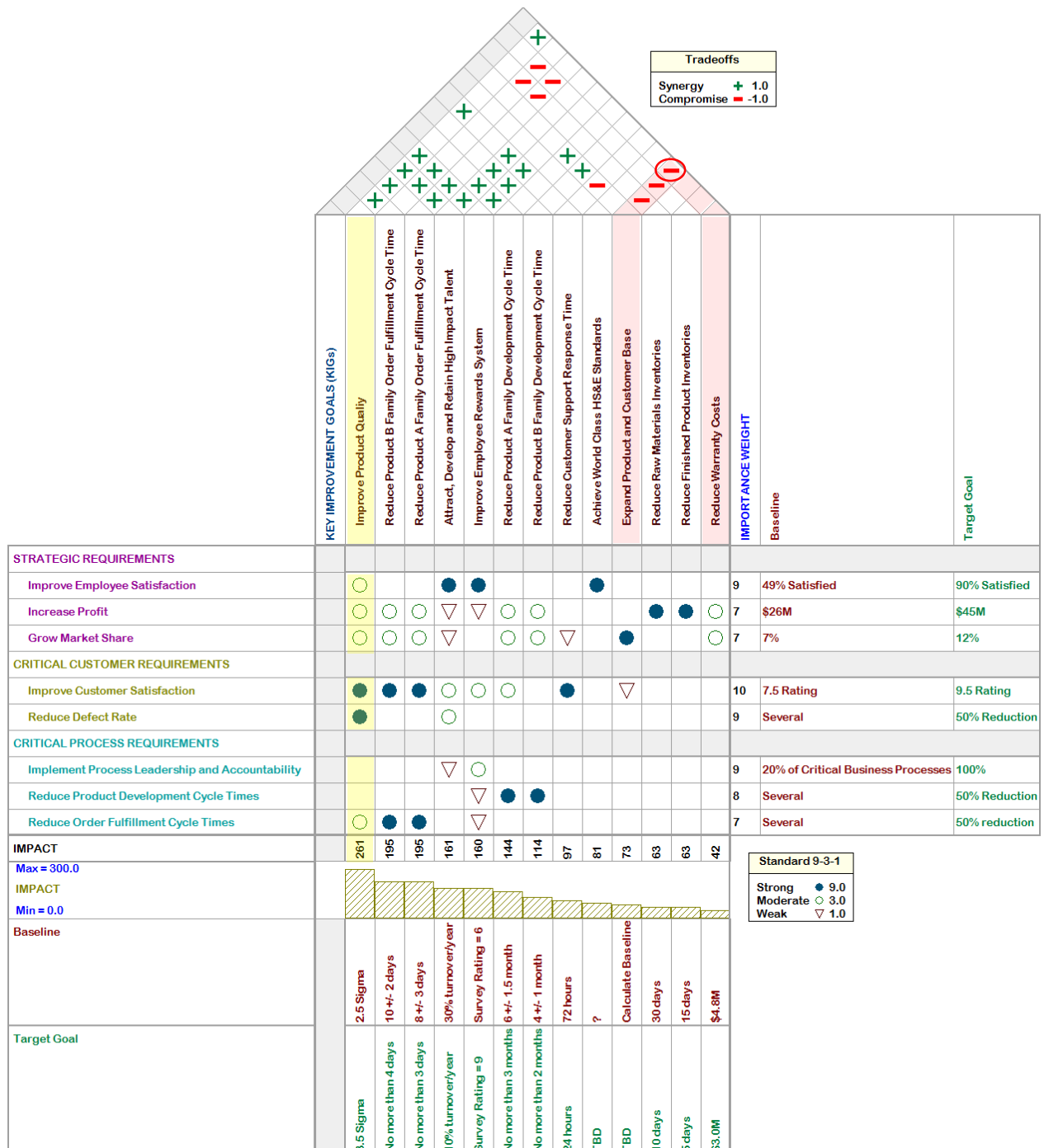
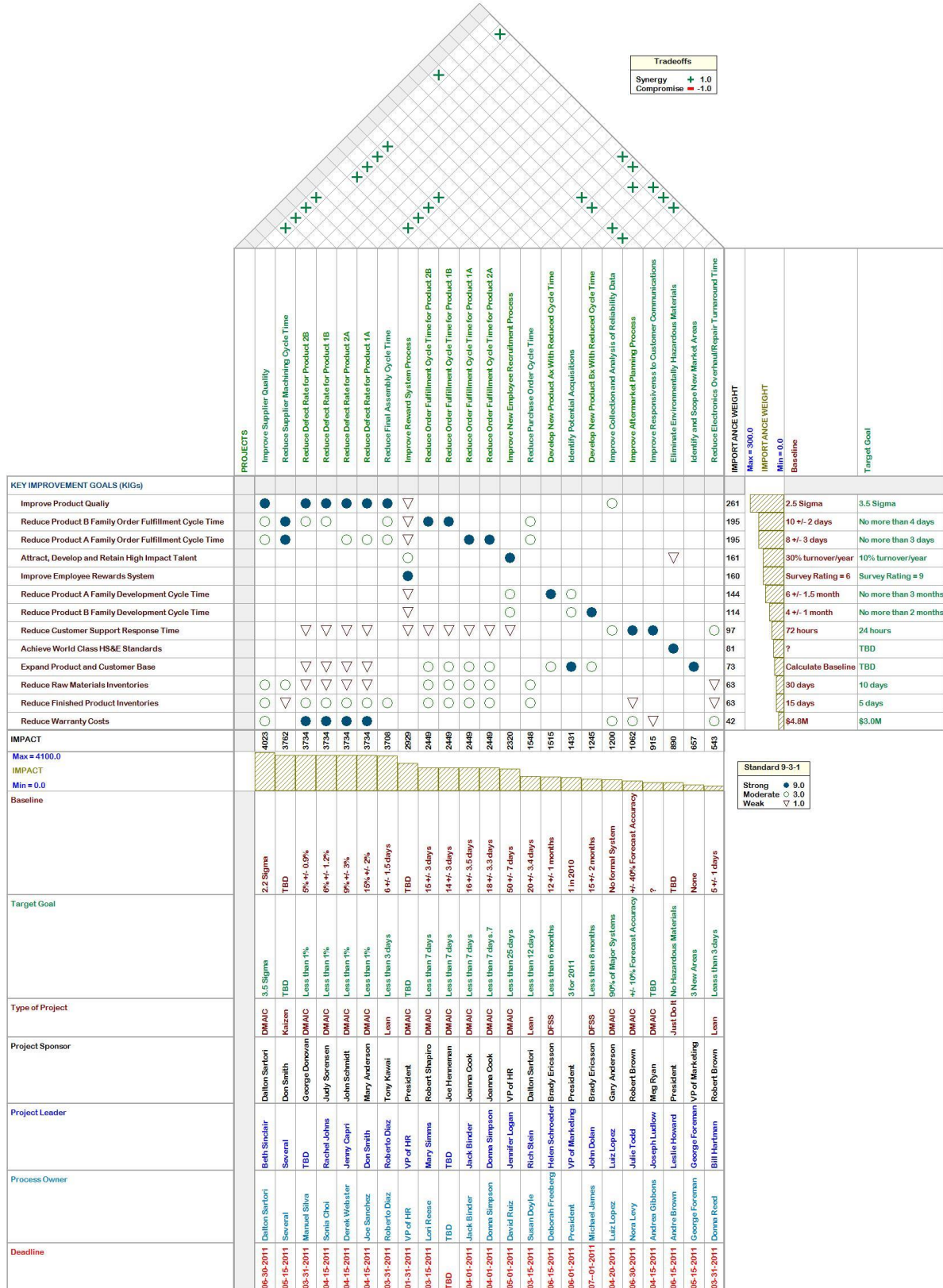


Figure 4 – QFD Matrix # 2

Key Improvement Goals (KIGs) VS Projects



ADVANTAGES OF USING QFD FOR PROJECT SELECTION AND PRIORITIZATION

1. The Quality Function Deployment approach is a powerful technique for promoting teamwork.
2. The matrices always depict the global picture.
3. The approach objectively establishes priorities. It is not a perfect tool, but it is very robust when there is multi-disciplinary involvement. It virtually always provides a better alternative to the present process (status quo). The methodology associates tasks and strategies with metrics. You cannot manage something you do not measure.
4. QFD provides a link between the selected projects and the broad company strategies. Examining the matrix carefully, you will perceive cause and effect relationships in every line of the matrix. The causes are the "HOWs" and the effects are the WHATs." Each participant can trace his/her contribution to the broader company goals.
5. The process considers Critical Customer Requirements, and thus listens and responds to the Voice of the Customer.
6. This approach goes beyond just stating the objectives of the organization. It includes the strategies to achieve those goals.
7. The matrices also can easily contain names of the people who are the "owners" of the strategies, reinforcing accountability.
8. A complete glossary of terms, if used for both matrices, can be very helpful for effective results. The QFD exercise will quickly point out to all involved how differently each individual interprets the requirements. These differences must be resolved even if it takes time.
9. Positively correlated KIGs (roof of Fig. 3) create no cause for concern, because they reinforce one another. We do pay attention to the negative correlations, where goal tradeoffs need to take place.

Through the use of Quality Function Deployment, broad requirements are deployed into specific initiatives that can be embraced by individuals or cross-functional teams in a focused way. These deployed initiatives or projects are presented in a matrix format, showing the relationships between them and each of the high-level requirements. The QFD matrices also make it easy to define metrics, as well as the respective quantitative goals for each of the chosen projects. They are powerful documents to the workforce and to senior management. They show the thinking of the organization's management on how to accomplish the most important goals. They are a form of participative management that takes responsibility not only for what needs to be done, but also for how to achieve it in an integrated manner.

We at ProcessGPS will be more than happy to answer any questions and to help you achieve your most important goals in 2011.



Gabe Kemeny and Michael Reames
Partners and Co-Founders, ProcessGPS, LLC

gabe@ProcessGPS.com (801) GPS-0606
michael@ProcessGPS.com (484) 2020-GPS

Website: www.ProcessGPS.com

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