



A White Paper

# Classification-Aware Job Ranking (CAJR) and Classification-aware Defect Ranking (CDR) Models

November 2024



**Michael Richardson**  
MICHAEL RICHARDSON ENTERPRISES, LLC

## Table of Contents

Introduction .....	1
Effective Prioritization .....	1
Versatile Application .....	1
Economic and Operational Efficiency.....	2
Enhanced Workflow and Team Collaboration.....	2
Implementation and Adoption.....	3
Detailed Defect Analysis.....	3
Conclusion.....	3

## Introduction

In today's fast-paced business environment, efficiently managing and prioritizing jobs and defects is crucial for ensuring optimal resource utilization and customer satisfaction. The **Classification-Aware Job Ranking (CAJR) Model** offers an advanced prioritization framework that effectively helps organizations tackle these challenges. Specifically, for defects, its implementation as the **Classification-aware Defect Ranking (CDR) Model** provides significant benefits for enterprises dealing with extensive backlogs of defects.

## Effective Prioritization

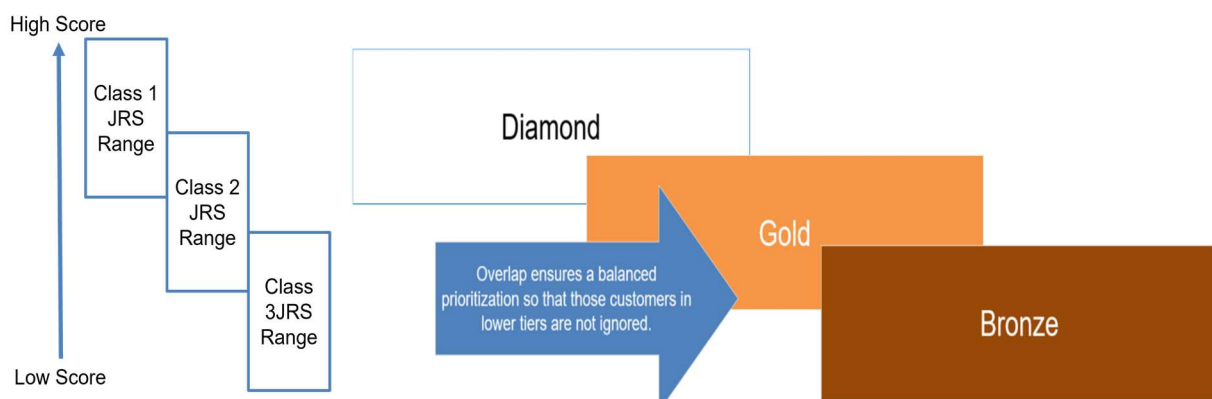
The CAJR Model introduces a structured approach to ranking jobs using a Job Ranking Score (JRS), calculated through classification tiers and a need-to-effort ratio.

$$JRS = Class + \left( \frac{\text{Need to Do}}{\text{Effort to Do}} \right)$$

This method ensures jobs that are the most important, those with the greatest need, but require only a modicum of effort are addressed promptly, by minimizing subjectivity and biased points of view. The CDR Model further refines this framework for defect prioritization, generating a Defect Ranking Score (DRS) based on the need-to-resolve to effort-to-resolve ratio for each defect. This enables teams to target the most impactful issues efficiently.

## Versatile Application

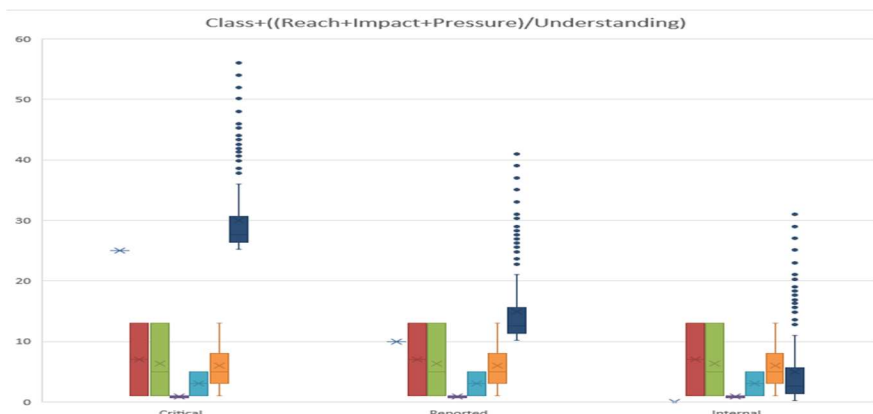
The CAJR Model is suitable in a business environment with various levels or tiers, such as customer service levels (Diamond, Gold, Bronze), customer size tiers (Enterprise, Mid-Market, SMB), and geographic markets (local, regional, national, international).



It supports the prioritization of jobs within multiple work types, such as infrastructure, maintenance, and technical debt, by ensuring a balanced allocation of resources.

The CDR Model is suitable in any development environment with various levels or classes of defects, such as Critical (health and safety concerns), Reported (known to customers), and Internal (leaked but not reported). It supports prioritizing defect resolutions by ensuring that highly beneficial resolutions that are fairly easy to implement and release don't get stuck behind high-priority defects that require extensive work. The suggested values for the factors of the CDR Model DRS formula provide for score ranges within classes that consider uncertainty for larger options and lower levels

of understanding. The suggested values also provide for a meaningful overlap of class-specific ranges to ensure enhanced user satisfaction from limited capacity allocations.



## Economic and Operational Efficiency

The CAJR Model supports principles of economic prioritization, but unlike Weighted Shortest Job First (WSJF), the CAJR Model supports scenarios where lower-tier jobs may have to take precedence due to overarching benefits.

- Responsive to market tier fluctuations, supports the ability to tradeoffs at scale using classification
- The JRS overlap allows for comparing costs and benefits across classifications
- Does not require 'true values', considers marginal benefit and cost using relative values

By removing subjective bias, the CAJR and CDR models provide a clear, data-driven prioritization process, reducing the "Tyranny of the Urgent" and ensuring critical tasks receive the attention they deserve.

For non-feature work types such as compliance, technical debt, and defect resolution, the CAJR Model—and particularly the CDR implementation for defects—offers a more natural and effective prioritization method compared to WSJF, which often struggles to account for jobs without quantifiable economic impacts.

- Considers broad aspects of value to the enterprise
  - Need to Do as a proxy for value/revenue and benefit/customer satisfaction, increasing benefits by providing outcomes where the need to do is defined by providing for the greatest reach and improvement
- Capture using an understanding of the solution or problem as a natural indicator of Effort to Do

## Enhanced Workflow and Team Collaboration

When using the CAJR Model you are encouraged to practice continuous prioritization and refinement of defects through frequent workshops and collaboration with key stakeholders, ensuring alignment with strategic goals and customer satisfaction.

- Working toward milestones/due dates requires periodic consideration of job priorities

The CDR Model promotes product development flow economics, maximizing benefits with minimal capacity usage, and maintaining an efficient defect resolution workflow that prioritizes well-understood and quickly resolvable defects.

- Balanced flow that considers classification tiers by minimizing flow impediments when near equal value may be realized with similar effort for jobs less likely to impede flow

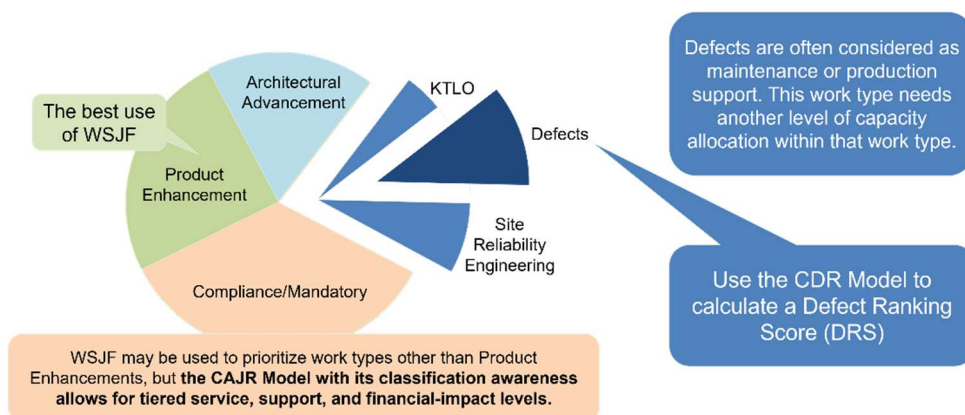
## Implementation and Adoption

The initial adoption of the CAJR and CDR Models can be facilitated through prioritization workshops, fostering a collaborative environment for determining defect priorities.

- Using relative comparisons encourages dialog across multiple domains of knowledge

Once integrated into the operating model, lightweight, continuous refinement sessions ensure the model remains effective and responsive to new information and changing circumstances.

The adoption of the CAJR and CDR Models augments the strength of WSJF used to prioritize Product Enhancement work. The WSJF, CAJR, and CDR Models collectively provide improved economics across the various capacity allocations of an enterprise.



## Detailed Defect Analysis

The CDR Model provides a comprehensive framework for calculating the Defect Ranking Score (DRS) using factors such as Reach, Impact, Pressure, Confidence, and Understanding. This allows for nuanced prioritization that reflects the real-world complexity of defect management. Defects are classified into tiers—Critical, Reported, and Internal—and the model then scores defects within each tier based on the number of users affected, the severity of the defect, the urgency of resolution, and the team's understanding of the defect.

$$\text{Defect Ranking Score} = \text{Class} + \left( \frac{((R + I) \times C + P)}{U} \right)$$

## Conclusion

The CAJR and CDR Models offer sophisticated and systematic job and defect prioritization approaches, delivering substantial benefits to enterprises facing large defect backlogs. By leveraging structured prioritization, economic efficiency, and collaboration, these models enhance the capacity to deliver high-impact resolutions swiftly, ensuring optimal resource utilization and heightened customer satisfaction.