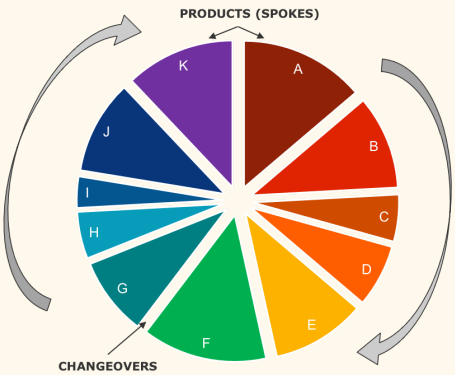
PHENIX

ALIGNED PRODUCT WHEELS VS. RUDIMENTARY WHEELS

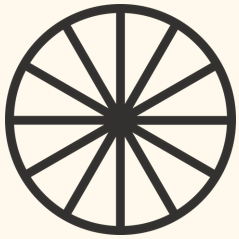
INTRO

Some ERP and SCM systems support Basic Wheels, rudimentary versions of production wheels. Phenix Planning and Scheduling software supports Aligned Product Wheels. This paper explores the differences between a Rudimentary Wheel and a Phenix Aligned Product Wheel.

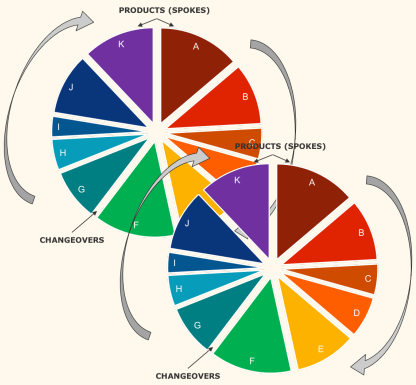
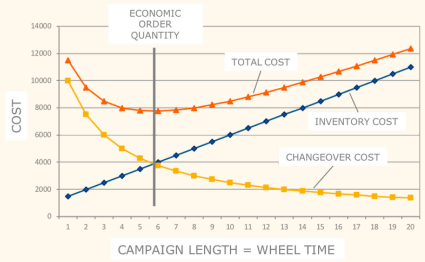
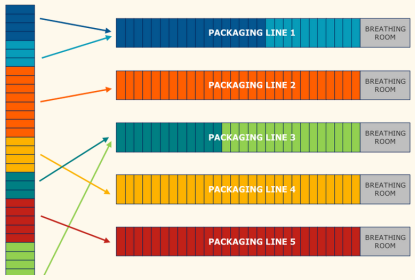
OVERVIEW

	ALIGNED PRODUCT WHEELS	RUDIMENTARY WHEELS
	Aligned Product Wheels define the optimum sequences, cycle times, frequencies, and inventory targets for each SKU, and generate schedules that are aligned with the business's customer service, throughput, and inventory goals.	Rudimentary Wheels define a preferred sequence and frequency of production and generate schedules that follow the sequence.

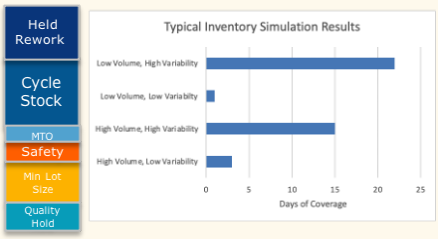
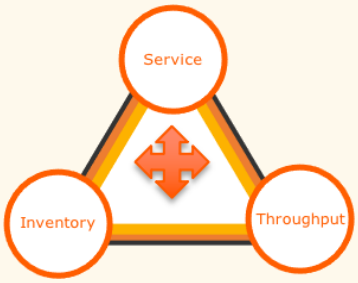
DIFFERENCES IN APPROACH

	PHENIX SOFTWARE	RUDIMENTARY WHEELS SOLUTION
PRODUCTION MODEL 	Phenix comprehensively models the production process using data on the equipment, materials and other resources needed to manufacture products and changeovers between products. Inputs to the model include demand and target fill rates, and outputs are production throughput, changeover costs, inventory costs and inventory levels.	Rudimentary Wheel solutions have rudimentary production models.
WHEEL DESIGN 	Phenix guides users through the process of designing Wheels, using the production model and input from planners to optimize Aligned Product Wheels and adapt them as conditions change.	Rudimentary Wheel solutions provide little or no support for the Wheel design process, making it difficult to optimize the Wheel and adapt it as conditions change.
SCHEDULING 	Phenix uses the production model and Aligned Product Wheels during the scheduling and rescheduling process, allowing schedulers to react to disruption, understand the impact of changes and optimize the schedule.	Rudimentary Wheel solutions provide limited support for optimizing schedules and rescheduling.

DIFFERENCES IN WHEELS AND SCHEDULES

	ALIGNED PRODUCT WHEELS	RUDIMENTARY WHEELS
OPTIMUM SEQUENCE 	Production sequences are automatically generated. Phenix model facilitates optimized rescheduling when dealing with disruptions. Attribute based changeover model is easy to maintain and stays accurate.	Production sequences are often manually maintained. Rescheduling either changes the entire sequence or is entirely manual. Changeover matrix is complicated and difficult to maintain.
RIGHT FREQUENCIES 	Cycle times balance the cost of changeovers and inventory for all SKUs. Frequencies accommodate high volume, low volume and make to order products, and are optimized for families and individual SKUs.	Rudimentary frequency recommendations, if any. Often all products are made at the same frequency and schedules are therefore not optimized.
CELLULAR MANUFACTURING 	Products are grouped into families that run well together. Families are assigned to production lines and scheduled together to obtain the benefits of a cellular manufacturing process.	Products are treated independently, and schedules are therefore not optimized.

DIFFERENCES IN WHEELS AND SCHEDULES - CONTINUED

	ALIGNED PRODUCT WHEELS	RUDIMENTARY WHEELS
PRODUCTION RHYTHM 	Cycle times are harmonized to ensure practical repetitive schedules well accepted by plant and business personnel. Changes to the schedule minimize disruption to the plant.	Schedules are repetitive, but changes are not optimized and can be disruptive.
INVENTORY OPTIMIZATION 	Inventory simulations recommend safety stock levels to achieve desired fill rates. Unlike classical inventory calculations they recognize fill rate targets and the overlap between lot size and safety stock.	Inventory calculations are part of inventory modules separate from the basic wheel. The overlap between lot size and safety stock is not accounted for.
BUSINESS ALIGNMENT 	Aligned Product Wheels can be tuned to maximize throughput, minimize cost, or minimize inventory, ensuring that schedules are aligned with business priorities.	Rudimentary Wheels provide limited support for aligning schedules with business goals, and schedules are therefore not optimized.

Changeovers and incorrect inventory levels waste significant time and money and affect customer service. Phenix planning and scheduling software uses Aligned Product Wheels to minimize waste and align production with the business's customer service, throughput and inventory goals. Visit us at **www.phenixps.com** to find out more.

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