

# Stage gate a popular system management essay

[Business](#), [Management](#)



**ASSIGN  
BUSTER**

## **Abstract**

This paper is about Stage-Gate, a popular system that is helping to drive new products to market, whose benefits have been well documented that it has been widely accepted. The process of launching new products does not just happen overnight, it involves planning. The process begins with Discovery stage and ends with Post-launch review stage. The process breaks innovation process into an established set of manageable stages that involves teams undertaking the work, obtains necessary information, and does subsequent data integration and analysis. Each stage has a gate and reviewed by gatekeepers to determine if the project will continue to make its journey to next the stage. At any point in the process, the project can be killed off if gatekeepers perceive it as not being a viable project instead of investing valuable resources in the project. Ettle and Elsenbach (2007) stressed that by adopting stage-gate on innovative projects, the results indicate that firms modify their formal development regimes to improve the efficiency of this process while not significantly sacrificing product novelty. Following a review of the process, it process is success but it serves as a risk management tool that helps companies minimize risks associated with product development but Sethi and Iqbal (2008) disagreed noting that when gate evaluation becomes stringent, it decreases flexibility that is required for new product development, which can have adversely effect on learning. The objective of this literature review is to analyse the stage-gate process and understand how the process helps companies innovate new products, gain competitive advantage and gain market share. The author will be use

several peer reviewed journals both for and against the process to enable arrive at a conclusion.

## **Introduction**

The success of any business is highly influenced by how competitive the business is against rivals in the same industry. A business will not succeed without identifying its competition, and identifying what sets them apart from the competition. When businesses compete for the same customers and same market, they must react swiftly and expect competitor's actions/reactions in order to remain competitive. No business functions successfully without commitment, it is important a business analyse its environment from time to time and adapt through business analysis. In this case, strategic planning is important as it sets the stage for the marketing plan. Strategic planning starts with an overall purpose and mission. These guide the formation of measurable corporate objectives. A corporate audit then gathers information on the company, its competitors, its market and the general environment in which the firm competes. A company can only remain competitive and profitable, if it can be able to innovate and launch new products at all times. According to Cooper (1990) based on data supplied by Fortune, the single strongest predictor of investment value is a degree of innovativeness of a company. of the company." The process of launching new products does not just happen overnight, it involves planning. In order to succeed in a new product development, a process known as stage gate must properly be followed. Stage-gate begins with Ideation stage also known as Discovery and ends with Post-launch review stage. Sometimes when a company fails in its bid to launch new product, it can be as a result

that the right processes were not followed, the right questions weren't asked or target market were not analysed. Stage-Gate is a process or standard for managing new product innovation that answers all those questions of how, who and when. It integrates various performance-driving operations into simple, comprehensive ingredients that will enable a company to succeed. It is a process designed so that all involved or will be involved will engage in all levels of decision-making and functions, thereby enabling quality product execution, alignment and speed of manufacturing products. The benefit of the process is that when the process is properly executed, products reach markets faster thereby generating better profits for investors and giving the company a competitive advantage over rivals. It does not matter if a company is launching new high technology or products that will change a competitive playing field, or to introduce new products to increase revenue, the adoption of the stage gate process enhances a company's performance and at the same time reduces the risk of failure. In this literature review, the author will look at the Stage gate process defined by Robert Cooper that enables companies launch successful new products, and how companies launching new products can implement the stage gate effectively. The author will use peer reviewed academic papers to look at this process.

## **Stage-Gate System**

" Stage-Gate is a conceptual and operational map for moving new product projects from idea to launch and beyond, a blueprint for managing the new product development process to improve effectiveness and efficiency" (Cooper, 2011: 83). In the current economic climate, there is urgency to maximise customer value, meaning that there is greater need for quick and

profitable new product development since products these days have shorter lifecycle, customers are more demanding and competition more intense, e. g. iPhones and other smartphones. In light of these, companies ignoring innovation faces unyielding future. Ettle and Elsenbach (2007) stressed that by adopting stage-gate on innovative projects, the results indicate that firms modify their formal development regimes to improve the efficiency of this process while not significantly sacrificing product novelty. These days, companies faces increased competition not just from home but also from abroad, maturing markets, and the heightened pace of technological change, prompting companies to look to new products and new businesses for sustained growth and competitive advantage (Cooper, 1990). It is not easy to win with new products despite strategic plans of a company to launch a new product, and resources devoted to conception, development and launch. Sometimes new product may fail in the marketplace or may never make it to the marketplace at all. For this reason, companies are now evaluating new product innovation process and aligning them to critical success factors defined through stage gate in order to drive their products to market. Cooper (1990) argued that stage-gate systems provide an overview of the entire new product process for senior managers giving structure and a vocabulary for better management and control. Sethi and Iqbal (2008) have a different view noting that when gate evaluation becomes stringent, it has the ability of decreasing flexibility required for new product development, which can have adversely effect on learning. They pointed out that when there is failure to learn, more novel products may perform poorly compared with less novel products. Biazzo (2009) disagreed saying that the statement that stage-gate

systems are not compatible with flexible development processes is misleading as it overlaps the organizational dimension with the informational one. The author sees it as a risk management tool used from the early stage of a project and without it can have costly effects at a later stage of the project and can even derail it completely. But with companies now competing for same customers in the same market and trying to gain competitive advantage, new products innovation is very essential and the best way to go.

## **The Process**

In recent years, senior managers have come under intense pressure to control new product development process which is essential to bring discipline to chaotic activities in new product development. Sethi and Zafar (2008), noted that this is consistent with the continuing trend in firms improving efficiency and lowering costs through process management and control initiatives, such as reengineering, Six Sigma, ISO 9000, and total quality management. The stage-gate process involves 5 stages but according Cooper (1990) it can be more depending on company or division. Each stage is meant to gather information that is required to move from one stage to the next or a decision point involving the targeted market, technical, operations etc. The activities involved in the process are cross-functional. Broum et al, (2011) pointed out that the process is one of the best known tools for developing new products. It breaks innovation process into an established set of manageable stages that involves teams undertaking the work, obtains necessary information, and does subsequent data integration and analysis. Optimizing the front end enhances

considerably the chances of developing successful new products (Gruner and Homburg, 2000)Broum (2011) stressed that stage-gate process is separated into stages and gates; the stages are defined by inputs and outputs which are exactly described. Gates are evaluations of progress that are made so far and the feasibility of the project which is usually decided by the gatekeepers. They establish if the project is to continue based on the deliverables that are needed for a particular stage. Donaldson and Wickerman (2012) stated that they are where Go/No-Go and prioritization decisions are made. Every gate should have a detailed set of deliverables in order to evaluate progress as fast and efficient as possible. The gate should also be clearly spelt out which will help identify whether the project should continue or killed off, and articulate the dates and deliverables for the next gate should it continue.. Each task must be successfully completed before proceeding to the next. The process enables firms to improve performance, enhance efficiency, and reduce new product cycle time. The process follows the path outlined in the diagram below. Each stage and gate will now be analyse to evaluate how it fits in the process

## **Discovery Stage**

The importance of the discovery stage is to generate valuable product ideas which can be advanced into great products to take advantage of new market opportunities. Though, it is a discovery stage, other activities can also be included in it to stimulate the creation of new product ideas such as technical research, technological possibilities etc. Krishnan and Ulrich (2011) noted that new product development research established rich and important knowledge about information search in the NPD process and

decision questions to be addressed in each development stage. Ideas can come from any source and different people, employees, customers, suppliers or sales people. Voice of the Customer (VOC) involves conversing and trying to identify customers' problems, required needs and asking customers for suggestions. Business development strategy plays a major role in ensuring the long-term health of the company, as it determines the opportunities for and the execution of entry into new markets. Maintaining customer profiles like Tesco will focus communication beyond the normal and subjective but will also offer valuable response for the future. When there are problems in trends, opportunities for new products emerges. For instance Richard Branson (Virgin Group) draws inspirations from the ideas of others and encouraged submission of new business ideas to his corporate offices. As matter of fact, the idea of his Virgin Bride came from a Virgin Atlantic employee appalled of products and services offered by bridal stores in the UK. Discovery is all about having a clear or alternative plan for the future in creating new product innovation.

## Scoping

The second step of the stage-gate process is scoping. The aim is to evaluate the product, its target market and market acceptance, and determine if the proposal deserves more investigation. It also addresses issues such as the benefits to customers and the features the product should have. The way to do this is for managers to investigate the strengths and weaknesses of the product, the value it will offer and its competition in the marketplace.

Depending on company, conducting surveys and interviews with potential customers, segmentation the market, examine the growth, customers'



behaviours and channels of distributions will answer all questions. For instance, Tesco's marketing strategy has been based around a database strategy driving a huge direct marketing campaign. Their customer base as recorded by the details provided by the hugely successful Club Card Scheme almost exactly mirrors the demographic make-up of the UK and Ireland. This simply means they have somehow managed to be all things to all men. Managers should also identify level of threat to the new product at this initial stage, to enable them to decide whether to go ahead with the product and strategy or simply to kill it off at that stage. Jespersen (2011) highlighted that stressing the consistency across markets, of information dependency effects on decision criteria - information dependencies increase the weights given to financial decision criteria at gate points at the expense of strategic and customer decision criteria. By conducting and investigating all these, it will be easy to confirm the strategic fit of the new product and be able to seek for sponsors. Scoping is research stage can be inexpensive to conduct by simply using the internet, libraries, consumers etc.

## **Building the Business Case**

Once the scoping stage of the new product is completed, the process proceeds to the second screen gate similar to the first but more rigorous involving series of must-meet and should-meet questions such as legal, technical and regulatory. These series of questions will determine if the project goes ahead and if it does, then the next stage is to build the business case. Building business case is the last phase of the concept and involves performing a concrete evaluation before the product development.

According to Oorschot et al, (2010), adhering strictly to the stage-gate

philosophy may kill off viable projects and damage a firm's bottom line so projects must properly be evaluated to determine their viability before being killed off. Business case defines the product and highlights the rationale for the new product development. Cooper (2011) refers to it as the stage that opens the door to product development. The stage is key to the success of the project and defines the product and its viability before any huge spending is committed. This stage is often difficult, complex, and resource-intensive and requires that a feasibility study be conducted which looks into the justification of the project, project plan and project definition. Companies planning new products must increase efforts because it is the success or failure of new product development. It requires well detailed resource from several places consisting of cross-functional members that will end up as project teams. At this stage it is important for any company undertaking a new product development to conduct a feasibility study and a SWOT analysis instead of investing money on a product that will not make the marketplace. Successful companies craft strategy by matching internal strengths and weaknesses with the opportunities and threats that arise in the external business environment. It is important to carry out a feasibility study at this stage which will address issues such as:-

Technical Business Financial marketing Legal (patent, environmental etc) Design solutions Sponsorships (investment) Suppliers etc

## **Go to Development**

The stage-gate process is to ensure that appropriate steps are taken to avoid failure of a new product in the marketplace. The Go to Development stage of the process is the last hurdle to be jumped and the last opportunity

gatekeepers have to kill off a proposal before involving heavy spending. As uncertainty is reduced, the projects that are not killed advance to subsequent stages wherein investment increases (Summers and Scherpereel, 2008) If a project scales through this gate and seen as viable, it is hard (but not impossible) to kill it off and substantial amount is then earmarked for the project to go ahead. This stage reviews all previous activities and subjecting the project again to must-meet and should-meet criteria (Cooper, 2011: 109). Copper (2011) pointed out that if the decision is to go ahead, the development plan and the preliminary operations and marketing are then analysed and approved.

## **Development**

The development stage considers the project deliverables, feasibility of the project and the business case. If the plan is accepted, the company will then invest resources to the project. During the development stage, plans are executed. However, stage-gate process has been successful from discovery in new product development, but Buggie (2002) has argued that it is not actually a new product development process at all; rather it is a conventional project-management process incorporating milestones as it proceeds. All design and development of the product are carried out involving some early controlled, simple in-house tests of the product, and may also include some customer testing to ensure product meets requirements. Since the GO ahead has been given at this stage, all plans will now be in full swing including the development of the product's marketing and production, quality management, cost and schedule, and also ensuring that all legal requirements are organised. The development team outlines a timeline with

specific milestones, the timeline will be updated and reviewed frequently, helping the team to stay on target. It is also important that development team report progress to senior management team and customers.

Depending on the product, as part of the deliverable, the development team will first produce a prototype of the new product for trial and feedback. If the prototype trial goes as expected, the product builds momentum thereby encouraging the company to invest more resources. The resources will enable the cross-functional development team to carry out more test, prepare market launch, prepare an updated financial analysis and at the same time resolve regulatory, legal and patent issues. Having a diversified cross-functional development team ensures that the product meets all company's standard criteria in terms of financial, technical and marketing. Diversity in context means team members will experience more conflicts and less participative safety. Also, diversity in time induces conflicts at the beginning of the process and can delay innovation (Winkler and Bouncken, 2011):

## **Testing and Validation**

Donaldson and Wickerman (2012) noted that testing and validation is an opportunity for external feedback from consumers and retailers and provides an opportunity for the project team to pause and ensure the product meets the brand's definition of "in-bounds" developed in the Idea Stage. The stage provides validation of the entire project and can sometimes have a negative result. Testing is very important as it helps answer quantitative questions, such as price sensitivity, purchase interest, and competitive analysis, and qualitative questions, such as brand positioning, features and benefits, and

marketing support (Donaldson and Wickerman, 2012). Areas to be evaluated include the product itself, production and manufacturing process, customer acceptance, and the economics of the project. Series of testing activities are involved in this process such as:

- In-house product testing:** This is an in-house product testing also known as alpha test with the main aim is to find issues with product. At this stage, the new product is no longer a prototype, it has practically all the features of the planned marketable model with appearance and functionality but may not be full ready for the market due to packaging and promotional materials. The reason for in-house testing is primarily to get feedback from staff, customers and partners. It is important that all those testing the product understands how the product should perform and know what to expect from the product.
- Field Trials:** This process according to Cooper (2011) is to verify the new product functions well under the condition it was meant for and assess reactions of potential customers. It is usually carried out for a longer period of time with much larger volunteers that includes customers, partners, and others whose feedback would be valuable, who are also well informed of the functions, benefits and use conditions but may not necessarily be familiar with your company. The testing will be able to highlight participants' interest, the preference of the product features and the likelihood of buying the product when it hits the market against other competitive offerings.
- Stimulated Market Test:** this will enable the company analyse customer reactions and assess the effectiveness of the launch plan and expected market share. The objective is to obtain an early forecast of sales by applying mathematical forecasting models, and making adjustments through management assumptions and judgments. The testing should be

either through specific channels, geographic regions, or particular consumer demographics. It is practically a trial run of the new product.

## **Product Launch**

The product launch is the concluding part of the new product having passed all the gates. According to Prahalad and Hamel (1990), a new product is a function of its development process. It is shaped by the path it has travelled it opens the door for full commercialisation process of the product, production and operation. At this stage, a marketing strategy must be generated to appeal to customer demands. As part of the launch stage, there must be training of sales and support staff so that they will be familiar with the product in order to they can assist in the sales of the product. Having a smooth launch process includes adequate marketing and a knowledgeable well prepared sales force, this will result in faster time to profit as a result of early customer acceptance. Setting up a market mix at this stage is very essential as it addresses the 4Ps –Product – Customer needs and wantsPrice – Cost to the customer/valuePromotion – Advertising/CommunicationPlace – How convenience can customer be able to buy the product? These are aspects of the product launch that must be considered. In terms of price, it is important to get the price right instead of under-pricing or over-pricing the product. Factors such as demand, the nature of the product, the profile of the market and the profile of the consumer and their price-sensitivity must all be considered first. Though, stage-gate is widely accepted as an efficient tool for product development but it has been said to be time-consuming, resulting in time-wasting activities (Gronlund, 2010).

## Post Launch Review

As the product is launched, the business benefit from the implemented project solution. All details of lessons learned from the process will then be reviewed for future product development and the project team is then disbanded while the product becomes a regular feature in shouts.

## Conclusion

Cooper (2008) stated that having a well-defined and efficient system that speeds new products to market is the goal of stage-gate. The Stage-Gate Innovation system has been widely accepted as the single most important discovery in product innovation that enables companies to achieve profitability on new product and growth. If it is implemented adequately, the result is that it increases the speed at which products reach the market and product success. Not only that, it brings discipline into a chaotic process that could occur due to lack of focus and directions. Because it is a tool that works in almost a same manner as lean six sigma, it decreases rework and any other form of waste. With each process going through a gate, it is easy to determine which project that is viable and which is to be killed it off instead of wasting valuable resources. As popular the system, it is used in managing risk in product development. It is a map that guides the process of moving from a product idea to a successful new product (Oorschot, 2010). Though, there have been some disagreement on the process but following the process from Discovery to Launch, it is clearly evident that it does what it says on the can and a process worth adopting in any company planning on developing new product.