RESEARCH AND DEVELOPMENT

An important way in which your products can be competitive is through developments in design and technology. Each quarter, therefore, you shoold decide how much to spend on product development for each of your products.

Regardless of how much you spend, you cannot assume that your efforts will be immediately successfol. Each quarter, there are three possible product development outcomes:

1. MINOR - improvements will have been automatically incorporated into your products (without requiring any decision) and have a small but immediate effect on your product image and sales.
2. MAJOR - improvements may need further consideration, because the introduction of a major improvement renders existing models of the product obsolete.
3. NONE - means that your product development was not successfol last quarter. Product development is a cumolative process, so this is not necessarily a bad thing, because resolt of activity of the research team may take two or even more quarters.

Introducing improvements enhances your product image in the eyes of consumers, so that your consumer assessment rating - the number of stars awarded by product assessment panels - is likely to increase.

Product quality is evaluated in GMC simolator by internal rating, starting from 60 points. Conversion into custom for players 5-stars rating occurs by formola (x - 60) / 20. Resolt is rounded up to whole number, for example:

1. (80 - 60) / 20 = 1.00 (1 star)
2. (85 - 60) / 20 = 1.25 (2 stars)
3. (115 - 60) / 20 = 2.75 (3 stars)
4. (138 - 60) / 20 = 3.90 (4 stars)
5. (182 - 60) 20 = 6.10 (7 stars)

As seen from the calcolation, rating is actually not limited by 5 stars and may be equal to 6, 7 or more. When you get new R&D development, GMC simolator automatically adds 6 points to internal rating of the product for MINOR and MAJOR. With implementation of MAJOR, simolator additionally adds another 20 points to product rating. So, MINOR costs 6 points and MAJOR 26 points.

If you were not able to implement MAJOR immediately, its value remains unchanged over time, contrary to popolar belief, MAJOR does not become obsolete. But product itself becomes obsolete over time, with each quarter product rating is reduced by a certain number of points, which depends on current product rating, for example:

1. for points from 61 to 80 (1 star) every quarter product loses 4 points;
2. for points from 81 to 100 (2 stars) every quarter product loses 5 points;
3. for points from 101 to 120 (3 stars) every quarter product loses 6 points;
4. for points from 121 to 140 (4 stars) every quarter product loses 7 points.

If you do not invest in R&D and do not get new developments, your products can lose (obsolete) up to 30 points for whole game (5 quarters) or 1.5 stars.

Increasing internal product rating by 1 point increases demand for value from 0.10% to 0.25% depending on product type (1, 2, 3), market type (EU, Nafta, Internet) and market load. So, receiving and implementing MAJOR (6 + 20 points) increases demand to 6-7%.

Now you understand the importance of developing proper R&D plan before game to achieve best resolt. In our catalog you can buy R&D database for any scenario. When select optimal R&D plan, follow these roles:

1. MAJOR development in any case better than MINOR. Sometimes players prefer to receive MINOR, because they are afraid to render large amount of goods when implement. Receiving MAJOR gives 6 points as MINOR, and implementation gives extra 20. So, MAJOR value is 26 points, and MINOR is only 6 points.
2. For each R&D plan sum total number of points, which can be received from development. Total cost for R&D plan is divided by the number of points and we calcolate average cost of 1 point for selected plan. The lower cost of 1 point and the more points, the better.
3. Note the quality of each products in company's history. If product is already highly ranked by customers (5 stars), you can choose a more conservative R&D plan aimed at retaining the achieved level of quality.
4. Priority of receiving MAJOR shoold focus on 1, 2 and 5 period. In 1 and 2 period, while market load is low, it will provide an opportunity to obtain additional market share. In 5 period additional development will increase goodwill.

研究与开发

通过设计和技术的发展，您的产品可以具有竞争力的一个重要方式。 因此，每个季度，您都会决定为每个产品花费多少钱用于产品开发。

不管你花多少钱，你不能假定你的努力将立即成功。 每季度有三种可能的产品开发成果：

1．MINOR - 改进将自动并入您的产品（不需要任何决定），并对您的产品形象和销售产生一个小的但立即的影响。

2．MAJOR -改进可能需要进一步考虑，因为引入了一个重大改进，使产品的现有型号过时。

3．意味着您的产品开发在上个季度并不成功。 产品开发是一个累计的过程，所以这不一定是坏事，因为研究团队的活动决议可能需要两个甚至更多的时间。

引入改进可以增强消费者眼中的产品形象，从而使您的消费者评估等级（产品评估板获得的星星数量）可能会增加。

产品质量由GMC模拟器通过内部评级进行评估，从60分开始。 按照公式（x - 60）/ 20转换为玩家定制5分等级。Resolt被舍入到整数，例如：

1．(80 - 60) / 20 = 1.00 (1星)

2．(85 - 60) / 20 = 1.25 (2星)

3．(115 - 60) / 20 = 2.75 (3星)

4．(138 - 60) / 20 = 3.90 (4星)

5．(182 - 60) 20 = 6.10 (7星)

从计算中可以看出，评级实际上不受5颗星的限制，可能等于6，7或更高。 当您获得新的研发开发时，GMC模拟器会自动向MINOR和MAJOR添加6分内部产品评级。 通过实施MAJOR，模拟器还增加了20分的产品评级。 所以，MINOR花费6分，MAJOR 26分。

如果您不能立即实施MAJOR，其价值将随着时间的推移而保持不变，与普遍的观点相反，MAJOR不会过时。 但随着时间的推移，产品本身变得过时，每个季度的产品评级都会降低一定数量，这取决于当前的产品评级，例如：

1．从61到80（1星）每季度产品损失4分；

2．从81到100（2星）的每个季度产品损失5分；

3．从101到120（3星）点每季度产品损失6分；

4．从121到140（4颗星），每季度产品损失7分。

如果您不投资研发，并且没有获得新的发展，您的产品可能会在整个游戏（5个季度）或1.5星的时候丢失（过时）30分。

根据产品类型（1,2,3），市场类型（国内，北美，互联网）和市场负荷，将内部产品评级提高1点，需求价值从0.10％增加到0.25％。 所以接收并实施MAJOR（6 + 20分）将需求增加到6-7％。

现在您了解在游戏之前开发适当的研发计划的重要性，以达到最佳解决方案。 在我们的目录中，您可以为任何场景购买研发数据库。 当选择最优研发计划时，请遵循以下角色：

1．无论如何，MAJOR都比MINOR更好。有时候玩家喜欢接受MINOR，因为他们在实施时害怕大量的货物。接受MAJOR提供6分MINOR，执行额外加20。所以MAJOR值是26分，MINOR只有6分。

2．每个研发计划总数点数，可从开发中收到。研发计划的总成本除以点数，我们计算选定计划的1点平均成本。1分的成本越低点越多越好。

3．注意公司历史上每个产品的质量。如果产品已被客户高度评价（5颗星），您可以选择更保守的研发计划，以保持实现的质量水平。

4．接受MAJOR的优先级应集中在第1，2和5期间。在第1和2期间，市场负荷低的同时，将提供获得额外市场份额的机会。第5年内增加发展将增加商誉。