

temporal motivation theory

Crafting

Crafting is the mechanic that allows the player to use the resources and Items obtained during exploration, fights and secondary missions to obtain consumable objects with better performance in terms of combat and gameplay continuation. The time spent collecting materials, fighting enemies to obtain the drop and the times these operations are repeated can greatly change the player's motivation in carrying out a certain action. In the analysis, all the characteristics of obtaining materials are analyzed to see how the player's motivation can increase or decrease through the inclusion of new Craftables and Prompts (BMAP).



Temporal Motivation Theory - Establish the values for the calculation

$$Motivation = \frac{Expectancy * Value}{1 + Impulsiveness * Delay}$$

As we do not have **predefined value scales**, the **values** that each variable can **take on in the calculation** will be **decided arbitrarily** by considering **different aspects of the gameplay**. For each variable, values **from 0 to 5** are chosen to indicate **different gameplay situations in which the missions are carried out** (*a value can be assigned for different reasons based on the type of mission and the aspects it requires*). With these values, the **motivation range varies between 0 and 25** and can be converted into a range between **0 and 100**, thus calculating a percentage of player motivation.

Craftable Items - Aspects Analyzed

Typology - Expectancy & Value

The type of craftable item actively impacts the motivation of the different player types based on the effect that Item has during *combat or exploration*. The Expectancy that the player has once crafted the Item is directly linked both to the narrative and gameplay consequences that that object can generate, and to the status of the character or team in that specific moment of gameplay (Level, equipment). The value of each Craftable is also affected by the repetition of the actions necessary to obtain it or the battles to be faced.



TMT - Expectancy

Before carrying out activities to recover all the ingredients and craft objects, the player **evaluates how useful it is to do so,** based on **how positive the reward is** (*item value, statistics and combat usefulness*) and on the **status of his team**. The **Authority** of the missions is implicit, the player is not given a **minimum recommended level** to tackle them but the difficulty of the missions themselves pre-establishes a suitable team structure. The **time required to complete the missions** or to **explore/combat** to obtain the recipe negatively affects the expectation a player has on a certain Craftable.



Arc	Gameplay moment before to face the mission, the fight or the environment exploration				
Build	Equipment worn by the team to face battles (Weapon, Armor, Level, Skills, Items ecc.)				
Authority	Player skill level and character stats required to complete the mission or the fight (implicit, depends on the MOB level and stats and the gameplay area of the mission)				
Combat Exp	Player's combat skill level (Skills, Level, EXP) and previous experience in gameplay				

Value	Arc	Build Autho		Combat Exp
0	Beginning	1 Character, Starter Level	High	No Combat Experience.
1	Initial Arcs	2 Character, Starter Level	High	Few Fights
2	Intermediate	2 Character, Medium Level	Medium	Faced several Fights
3	Intermediate	3 Character, Medium Level	Medium	Faced several Fights
4	Advanced	4 Character, Medium Level	Low	Mastered Skills and Stances
5	Advanced	4 Character, High Level	Low	Mastered Skills and Stances



TMT - Value

Evaluation of the **usefulness** that the player assigns to each **Craftable** based on the use it can have at a **gameplay level** (new combat dynamics, boosting of stats, increase in damage inflicted on enemies, interaction with NPCs and the game world) and on a **narrative level** (importance of the single Item, backstory, information obtained by carrying out missions and exploring places). The values vary based on the reference **Player Type**.

Value Variable - Values

The values that are taken into consideration, based on the type of Craftable, are:

Reward Utility	The higher the utility , the longer the gameplay time in which the player uses that reward	
Reward Cost	The price at which the Reward can be resold to obtain currency	
Stats Upgrade	The bonuses that the reward provides to the character's stats if equipped	
Affective Value	Emotional value that the player feels towards that reward (Appearance, Lore, etc.)	
Char/Env Lore	How much information at lore level (character or game world) the reward provides	

Value	Reward Utility	Reward Cost	Skills Upgrade	Affective Value	Char/Env Lore
0	Never Used	Low	None	None	None
1	Rarely Used	Low	Little Stat Boost	None	Few Info
2	Short period	Medium	Little Stat Boost	Little affection	Few Info
3	Long period	Medium	Medium Stat Boost	Little affection	New Lore Info
4	Most of Gameplay	High	High Stat Boost	Great affection	New Lore Info
5	Until the End	Very High	High Stat Boost	Great affection	New Lore Info





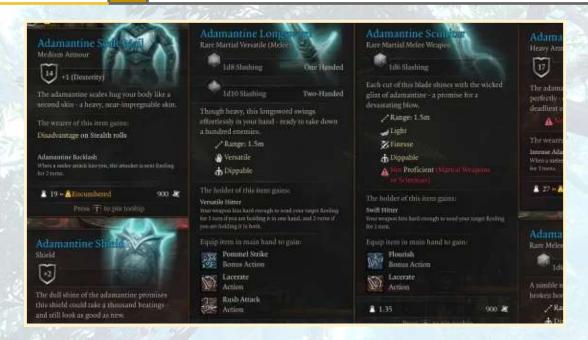
TMT -Impulsiveness

The sensitivity of the Delay is given by the gameplay moment in which it is possible to reach certain places or carry out missions to obtain the ingredients to be used in crafting. The player's skills, his approach to exploration and the composition of the team influence the evaluation.

- The mission or the combat must be **completed immediately** in order to overcome the current main mission. The player **has the necessary skills** and the Team is leveled enough to win combats.
- The mission must be **done immediately** in order to overcome the current main mission, the player must **obtain rewards to improve his build or must recruit new team members to increase his chances of victory.**
- The mission can be carried out in the next narrative and gameplay arc.

 The player has the necessary skills and the Team is leveled enough to win combats.
- The mission can be carried out in the next narrative and gameplay arc.

 The player must obtain rewards to improve his build or must recruit new team members to increase his chances of victory.
- The mission can also be **carried out at the end of the gameplay**. The player has **insufficient skills and his team is under-leveled**.
- The mission can be carried out at any moment of the gameplay. The player does not have sufficient skills and his team is too weak to fight enemies and win combats.



TMT - Delay

Time to obtain the necessary resources, explore the game environments and complete missions to be able to craft the desired items.

- The mission takes place in the player's location. No fight
- The mission takes place in a location adjacent to the player's. No/few fights
- The mission takes place in a **location adjacent to the player's**. **Numerous** or prolonged combats (**Boss**)
- The mission takes place in a place far from that of the player. No/few fights
- The mission takes place in a place far from that of the player. Numerous or prolonged combats (Boss)
- The mission takes place in a **location opposite on the map** to that of the player. **Numerous** or prolonged combats (**Boss + Mob**)

Craftables Analyzed - Baldur's Gate 3 Items

The Craftable in Baldur's Gate 3 are all consumable objects that can be used in battle to generate new combat dynamics and inflict greater damage on enemies or to defend against their attacks. The analysis is carried out for each type of Player Type (Bartle's) in order to understand how each player places themselves in the search and obtain the ingredients for the Craftables and how their motivation towards the mechanics varies based on the factors listed previously.

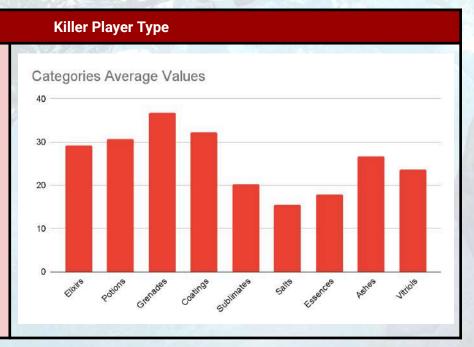
TMT Final Motivation - Craftables

Final Motivation (in%) for each Player Type respect to Typology of the Craftables

Achiever players prefer to craft items that require easily recoverable resources and that provide better boosts in battle. They are driven by overcoming the game challenges and having as many resources as possible to exploit them through Logic and overcome the challenges and then continue with the gameplay (Completion & Accomplishment). **Grenades. Potions and Elixirs** are the tools that most motivate them to use the **crafting mechanic**, they are tools that are easy to craft and can provide different boosts to the statistics of the Team members.

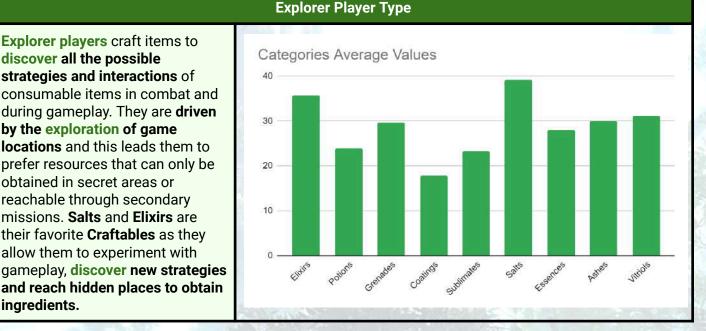


Killer players craft items that generate Sensation, which provide auditory and visual satisfaction through VFX and SFX, which increase the perceived pace of the battle (little reasoning, strong boosts to statistics and immediate effects). Coatings and Grenades are the objects that will motivate Killers to craft, the grenades increase the player's satisfaction in battle and the coatings allow you to increase elemental and physical defenses to better face melee battles.

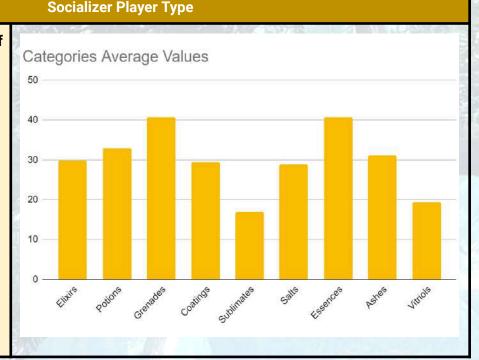


Explorer players craft items to discover all the possible strategies and interactions of consumable items in combat and during gameplay. They are driven by the exploration of game locations and this leads them to prefer resources that can only be obtained in secret areas or reachable through secondary missions. Salts and Elixirs are their favorite **Craftables** as they allow them to experiment with gameplay, discover new strategies

ingredients.



Socializer players have the goal of crafting items and showing other players their level of character customization, their strategies in battle and all the actions they performed to obtain the **ingredients.** They want to be accepted by the community and feel part of it, they craft objects that create **sensations** to share with others and they want to completely customize their gaming experience and their characters in the Team. Essences allow you to craft items that are stronger and more difficult to create, thus posing a challenge to be shared if overcome.



Conclusions

Although each **Player Type** has its own preferences regarding craftable objects, **the average motivation** percentage never exceeds 45%. This indicator underlines the lack of use of player crafting due to the main motivations that push them to collect resources and use them with the analyzed mechanics. The BMAP is the framework used in the analysis to try to use prompts that increase players' motivation and rewards towards crafting and facilitate its use. In this way, even players who are already motivated but lack ability can have Facilitators that allow them a better approach to the mechanics.

