

Merchants and Marketplaces

Business, Trading, and Manufacturing in D+D 4e

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Overview

Merchants and Marketplaces is a system for handling all sorts of player-run businesses in D+D 4e. It is designed with the following goals in mind:

- Rather than having lots of detailed rules for specific types of goods, it establishes a general framework that can be used for just about any kind of good or service that players might want to provide.
- The business simulation aspect can be as simple or as complicated as you want. If desired, you can abstract away the buying and selling aspects and allow characters to focus solely on crafting – or you have the players manage their entire supply chain, from sourcing raw materials to selling their finished products. (As an aside, I wonder if this is the first time the phrase “supply chain management” has been used in an RPG.)
- There’s plenty of extra options to increase your experience, such as hireable employees, purchasable factories, and much more.

Note that all items listed as “Options” are not necessarily useful for all games, and will require DM approval.

Basic Rules

The Inventory Unit

In *Merchants and Marketplaces*, all goods are measured in units known as IUs, or Inventory Units. By default, each IU represents an amount of gold pieces worth of goods based on its Quality Level (See below). This holds regardless of what goods they are – for example, one IU of iron represents a much larger physical quantity than does one IU of platinum – but they’re both worth the same amount. The value of each IU can be changed as appropriate to the campaign, such as if you are using a different monetary system or if you simply want the profit potential to be higher (or lower) than the default indicates.

Note that certain events can change the values of certain goods – for example, a shortage of iron might cause iron to double in price. If this happens, the value of an IU of that material also goes up – an IU represents a specific physical quantity of the material, which does not change. It’s just that the quantity of each good per IU is calibrated so that the “base price” of an IU of each material is the same – this is necessary in order to have a generic system that allows all kinds of goods and services while still being relatively balanced.

Quality Levels

Goods are rated according to their quality on a scale of “quality levels,” or QLs, from QL0 to QL12. QL0 is lowest; QL12 is highest. Higher QL goods cost more per IU, as described in the chart below.

Quality Level	Price per IU
QL0	5
QL1	10
QL2	25
QL3	50
QL4	100
QL5	250
QL6	500
QL7	1000
QL8	2500
QL9	5000
QL10	10000
QL11	25000
QL12	50000

Description of Quality Levels

QL0: Extremely cheap, barely salable goods. Examples would be crude improvised weapons and tools, and heavily worn-out goods.

QL1: Low-end, basic goods. Cheap furnishings, simple weapons, light armor, staple food, and basic adventuring goods all fall into this category.

QL2: “Standard,” moderate quality goods. These include military weapons, heavy armor, ordinary furnishings, and normal clothes.

QL3: Above normal quality goods. Minor magical items, some art objects, clothes fit for the upper class.

QL4 to QL6: Very high quality goods, which are normally affordable only for adventurers, wealthy merchants, and nobility. Examples would be expensive art objects and clothes made of rare silk.

QL7 to QL9: Extremely expensive items, out of the reach even for most of the upper class, and very difficult to find.

QL10 to QL12: Almost impossible to find even for the most wealthy. Examples would be unique artifacts, paintings by famous painters that have been lost for centuries, and so forth.

Quality Levels of Various Items

These are quality levels for the items already given in the game.

Nonmagical Weapons and Armor: QL0 for clubs, improvised weapons, and cloth armor; QL1 for other simple weapons and light armor; QL2 for military weapons and heavy armor.

Adventuring Gear: QL1 for items with base price 10 GP and under, QL2 for items with base price over 10 GP.

Art Objects: Dependent on value. Find the highest QL whose IU value is below the value of the art object. For example, an art object worth 700 GP would have QL6. This value may be reduced at the DM’s discretion for art objects whose value is due more to a large amount of labor involved than to superior craftsmanship, such as a large statue.

Magical Items: QL is $2 + (\text{level}/3)$, rounded up. For example a 5th level magical item would have QL4.

The Business Turn

The basic time unit in *Merchants and Marketplaces* is the “business turn,” which represents one month of operation. (This value may be adjusted based on the needs of the campaign.) During each business turn, each character involved in the business may take one “business action.” Business actions include buying, selling, and production, and are described below.

Option: Splitting Time: A PC may choose to split his time between two or more tasks. This is especially useful for sole proprietorships (the owner is the only employee). To do this, the PC declares what portion of time he is spending on each task (for example, 1/4 purchasing, 1/2 production, and 1/4 sales) and makes an attempt at each action. For actions that generate a specific quantity of result (such as production) multiply the quantity generated by the fraction of time spent. For actions that are based on

skill challenges, then take -2 to each roll in the skill challenge per halving of time spent. For actions that are based on individual rolls, take -5 to each roll per halving of time spent.

Option: Overtime: Especially if only one character is involved, even the above option may be too slow. For example, some may not like the fact that a player must spend their entire business turn looking for suppliers or else suffer a large penalty to that roll. Therefore, one may wish to use the following option instead: During each turn, a character can take up two business actions, although at most one may be a Production action. Only PCs can do this in general; hireable NPCs are only willing to take their one action each turn.

Buying and Selling

Before characters can produce anything, they first have to buy the raw materials. And in order to make money, they have to sell their finished products. There are several ways that players can buy and sell goods.

Regional QL (RQL)

Just like in real estate, the key to buying and selling in *Merchants and Marketplaces* is “location, location, location.” Each region in the game has a “Regional QL,” or RQL, which represents the highest QL of goods that can normally be bought and sold there. Regional QLs are given on the following table.

Area Type	Regional QL
Hamlet	QL0
Small Town	QL1
Small City	QL2
Large City	QL3
Metropolis	QL4
Area is prosperous	+1 to +2
Area is very poor	-1 to -2
Rich section of town	+1 to +2
Poor section of town	-1 to -2

Buying At Market

A player may spend a business action to purchase goods at the market, possibly at a discount. To do so, he makes a Diplomacy check (or Streetwise check if buying goods on the black market) with the following modifiers:

Circumstance	Modifier
First 20% discount	-5
Each subsequent 10% discount	-5
Each QL of goods above RQL	-10
Goods are hard to find	-5
Goods are scarce	-10

These modifiers are cumulative. For instance, if a player is buying QL4 goods in a large city (RQL 3), the goods are hard to find, and he is buying them at 70% of market price (i.e. 30% discount), he gets a total of -25 to the roll.

The result of the roll is the number of IUs of goods that the player managed to buy during the month at the given price.

Note that if there are no negative modifiers to the roll (i.e. the player is buying goods that are readily available, at or below the RQL, and at market price), then the player may buy as many of those goods as he wants without making a roll. (If the player buys *too* many goods, though, then at the DM's discretion he might deplete the local supply; if that happens the goods might become "hard to find" and he can no longer use these rules.)

The player may "take 10" on the Diplomacy or Streetwise check if desired.

Selling At Market

According to the DMG, players may sell goods for 20% of the market price. These rules allow players to go beyond that, as will be necessary in order to make a profit. A player may spend a business action to sell goods at the market, possibly at a discount. To do so, he makes a Diplomacy check (or Streetwise check if selling goods on the black market) with the following modifiers:

Circumstance	Modifier
Sell at 50% of market price*	0
Each 25% higher price	-5*
Each QL of goods above RQL	-10
Goods are hard to find	+5, and see below
Goods are scarce	+10, and see below

* See the special rule "Price Sensitivity" below.

These modifiers are cumulative. For instance, if a player is selling QL4 goods in a large city (RQL3) for 125% of market price, he takes a -15 penalty for 75% worth of price differences, and a -10 penalty for the QL difference, yielding a total of a -25 penalty.

The result of the roll is the number of IUs of goods that the player managed to sell during the month at the given price.

Special: Price Sensitivity: Some goods are more price-sensitive than others – with some goods, people can get away with charging higher prices. To model this, the 5 point penalty per 25% cost increment can change.

Circumstance	Modifier
Lots of competition	+1 to +3
Very little competition	-1
Goods are hard to find	-1
Goods are scarce	-2
Goods are essential*	-1

* “Essential goods” refer to goods that are essential for survival, like food, water, and medicine.

Optionally, the DM can apply this modifier only if there is already a lack of competition or the goods are scarce, so people are desperate for the good.

These modifiers are cumulative. For example, a business that managed to make itself a monopoly (thus gaining the “very little competition” modifier), used its monopoly power to restrict supply (this making the goods scarce), and was selling an essential good, would get a -4 to the penalty, reducing the penalty from 5 points per increment to 1 point per increment, so it could, for instance, sell its goods at 300% of market price with only a -10 penalty to the roll. (1 point per increment is the minimum possible penalty.)

Supply Contracts

Supply contracts are contracts with other merchants that allow you to buy or sell a fixed quantity of goods at a fixed price each business turn. A typical supply contract will specify both a quantity and a price: for example “50 IUs of iron per turn for 8 gold pieces per IU.” Supply contracts last until they are canceled, either because one side or the other can’t fulfill the terms of the contract or because of certain random events.

There are no fixed rules governing how supply contracts are gained, because they are intended to be used as adventure hooks and roleplaying opportunities. Engage in a skill challenge to locate and persuade a cooperative merchant, gain a contract in exchange for helping a fellow merchant with a monster problem – the possibilities are endless.

Shops

Shops are also very useful to sell things. See the section on shops in the Advanced Rules for more details.

Production

Production is the core of *Merchants and Marketplaces*. “Production” encompasses a variety of activities, including crafting finished products from raw materials, mining and other forms of harvesting, and so on. Each form of production is represented by a “production formula.”

The Production Formula

A production formula has two sides, the “input” side and the “output” side. The “input” side represents everything that goes into making the goods, including labor and raw materials, while the “output” side represents the result of the production process.

All inputs and outputs that are physical goods are measured in IUs. Labor is measured in Labor Units, or LUs. When setting up a production formula, the following rules must be adhered to:

Conservation: The sum of all inputs must equal the sum of all outputs. (IUs and LUs add together, so 1 IU plus 1 LU of input would generate 2 IUs of output.)

The 80/20 Rule: A production process must have at least 20% of its input be labor. (This is intended to prevent players from setting up production formulas that convert large amounts of resources from one form to another with little or no labor.)

Examples of production formulas are as follows:

Weaponsmithing: 1 IU iron + 1 LU → 2 IU weapons

Alchemy: 2 IU ingredients + 1 LU → 3 IU potions

Gold Mining: 1 LU → 1 IU gold

Jewelry Making: 1 IU silver + 1 IU gold + 1 LU → 3 IU jewelry

Note that each good has a QL as described in the Quality Level section, and labor also has a QL. All items in a production formula must be the same QL (with exceptions as described in the Labor section)

Option: Services: Some production processes produce a service as output, rather than a good. For example, a restaurant type business would produce “food service” as output. Services are produced and sold just like any other type of good, with the exception that they cannot be saved from month to month.

DM Note: It is not intended that players be able to simply write down any production formula that they want. Although the production system is intended to give players and DMs maximum flexibility, the DM is the arbiter of his campaign world and should make sure that the production formulas make sense in the context. For example, it is unlikely that iron could be used effectively to make potions, or that gold could be used as an effective material for weapons. In particular, DMs should be wary of players that push the limits of the 80/20 rule in an attempt to convert the maximum amount of resources possible with minimum labor. Realistically, most medieval-type production processes will be quite labor-intensive.

Labor

In order to generate labor, characters must spend a business action in production. To do this, they make a skill check with an appropriate skill for the production process they are using – this is known as a

“production check.” For example, blacksmithing might require Endurance, jewelry making might require Thievery (because it involves precise motions and manual dexterity), and so on.

Modifiers to the check depend on what QL of labor he wants to produce (i.e. what QL of labor is in the production formula). The base QL of labor that a player can produce depends upon his level. To produce labor of a higher QL, he must accept a penalty to his check of -5 per QL higher than the base QL.

Level	Base QL
1-5	QL0
6-10	QL1
11-15	QL2
16-20	QL3
21-25	QL4
26-30	QL5

Option: Feat Based Quality: Using this option, do not use the progression above. Instead, heroic tier characters have base QL0, paragon tier characters have base QL1, and epic tier characters have base QL2. Additionally, add a heroic tier feat “Quality Crafter,” a paragon tier feat “Expert Crafter,” and an epic tier feat “Master Crafter,” that each add 1 to base QL and stack with each other. With this option, characters can reach higher QLs slightly faster than normal, but it costs them feats. This may be useful in your game if you want to force players to pay a higher cost in order to get up to the higher QLs.

The result of the check is the number of LUs produced.

Example of Play

Jonathan the warlord wants to invest some of the money he got from his latest adventure into setting up a blacksmith shop. Two of his adventuring friends, Andrea the paladin and Baradan the rogue, agree to help him. They establish the production formula as described above:

1 IU iron (QL2) + 1 LU (QL2) → 2 IU weapons (QL2)

In the first business turn, Andrea, who has a Diplomacy modifier of +12, goes out and buys raw materials. She decides to go for a 20% discount, giving her -5 on the check. She takes 10 on the roll, buying 17 IUs of iron for a cost of 340 GP (17 * 25 * 80%).

Jonathan then takes the iron and goes to work. He has an Endurance skill of +11, and is level 3 so he only has a base QL of 0. Thus to produce QL2 labor he must take a -10 to his check. He decides to roll, rolling an 8 on his d20 roll for a total of 9. He generates 9 LU, combining it with 9 IUs of iron to produce 18 IUs of weapons.

Baradan then goes to work selling them. He decides to sell the goods on the black market, enabling him to use his Streetwise skill, which is an excellent +16. He sells at 100% of market price, giving him a -10 to the roll. He rolls a 16 on his d20, which translates to a roll of 22. Unfortunately, he only has 18 IUs of weapons to sell, so he sells them all for 100% of normal price, or 450 GP (18 * 25 * 100%).

In the first month of operation, Jonathan's blacksmith shop has made 110 GP, plus they still have 8 IUs of iron in stock that they can use next time around. Realizing the inefficiency of the current process of running around town asking anyone that they can think of if they want to buy their weapons, Jonathan decides to save up some money to buy a permanent shop and hire some employees so they can sell goods without having to use up their precious time. And we'll find out about how to do that... in the Advanced Rules section!

Advanced Rules

To be continued...