**FINAL EXAM QUESTION 8**

Consider a FinTech SaaS based start-up company with an estimated subscription market opportunity of 10 million subscribers who are willing to sign up and pay $20 per month the first year. For the first year, the cost of revenue is estimated at $3 per subscriber and operating expenses, including marketing, is estimated at $2 per subscriber.

The following assumptions are for Year 2 through 10:

|  |  |
| --- | --- |
| **Assumptions** | **Years 2–10** |
| Monthly Subscription Price Increase per Year | 5.0% |
| Number of Subscribers Increase per Year | 2.0% |
| Monthly Cost of Revenue per Subscriber Increase per Year | 3.0% |
| Monthly Operating Cost per Subscriber Increase per Year | 5.0% |
| No Tax Assumed |  |
|  |  |
| Brand Terminal Value (Year 10)—multiple of EBIT (x) | 0x |
| IP Expected Return | 25% |

**IP Assumptions**

The present value of the development cost is initially estimated at $400 per subscription (cost per customer acquisition). The firm has the IP patent to exploit for the next 10 years.

The 10-year riskless rate is 3.0%, and the variance is 0.05, based on the stock variance of similar companies’ stock price.

Given this information above, calculate the value of the IP patent using the Black-Scholes pricing method.