Title:
How Does Sensor Size Affect Your Digital Photography

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Summary:
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The size of the sensor affects digital photography

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Article Body:
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The size of the sensor affects digital photography

The final image is an outcome of the various pixels that are arranged by the sensor of the camera. Soon after clicking on the shutter button, the pixels start to accumulate the photons in a cavity. After completion of exposure, camera confines those pixels and find out the number of photons that are attached to each other. Now these photons are compiled in accordance with the levels of intensity. But all these can only give you a colorless image. There are some filters on the cavities that release the specific color of light into those cavities. All the contemporary digital cameras are unable to capture all the three primary colors. Only one of the three primary colors gets into each cavity. Thus the camera needs to estimate the remaining two colors to get the adequate information about all the three colors at every pixel.

Bayer array is one of the commonest color filters used in digital cameras and

passes on all the information about different primary colors to each pixel. Higher or lower resolution of photograph depends on the array.

In a very precise meaning a sensor is a silicon semiconductor meant for acquiring photons and converting them into electron. The size of the sensor is, perhaps, the second most important thing just after the quantity of mega pixels. Though the size of the sensor has a huge range, generally it is of two basic categories. The sensor of DSLRs comes under the range of 24x16mm to 36x24mm, but it remains of the range of 8x6mm in the case of a consumer camera. The size of the sensor affects the performance of the camera and decides the intensity of sensor produced noise. Noise, actually, worsen the images of digital camera. If the sensor is smaller than actual requirement, then the camera is unable to capture the full view of the image. Fisheye lens can actually compensate this to some extent. But one, who really does not want to compromise with the quality of the image, should only go for the camera having adequate size of sensor. In case the sensor is small, centre of the lens captures the image. Since maximum portion of the image passes through the centre of the lens, quality of the lens becomes very important factor to consider. The quantity of light that reaches into the pixel is very less. Therefore useful image is only available after proper enlargement of the same.

There is a relation between sensor and crop factor. In this case, because of limited size, while using 35mm lens, the sensor crop out the inferior quality portion of the image. This is simply because the fact that the image passes through the centre of the lens in case of smaller sensor and the image remains sharpest at that position. The use of lens becomes a meaningless practice if the sensor of the camera is undersized. But a 2/3 or even ¾ size can give optimum output if it is used with a 35mm lens.

In upshot, it can be concluded that finding out a pixel pitch of a given sensor, while buying a digital camera can be tricky. However, one can seek the help of certain review sites that provide the information about recent models including their sensors.